Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

NO SUCH THING AS STANDING STILL

"Physicians can be divided into two great groups: there are those that are learning and those that are forgetting, those that each year know more and those that each year know less. There seems no third group, those that are stationary.

"A few physicians increase in knowledge from within and grow from their own doing. These are the innate investigators. The rank and file require outside help to grow and to progress. Books, meetings, contacts, discussions, teachers are our armamentarium of progress. Like the 'spring tonic' of past days, all of us need some of this medicine, at least annually, better if it comes more frequently. A large majority of physicians know their need and seek treatment. Postgraduate instruction is a potent prescription to this end."

Dr. Henry H. Christian in *Journal A. M. A.*, March 28, 1930.

Volume XXX

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MAY, 1931

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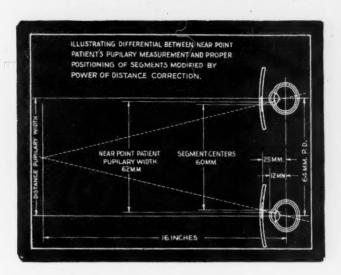


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OF THE

Michigan State Medical Society

ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Vol. XXX

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NO. 5

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OBSERVATIONS ON ACUTE APPENDICITIS: FACTORS INFLUENCING MORTALITY*

FREDERICK A. COLLER, M.D.,† and COLIN C. McRAE, M.D. ANN ARBOR, MICHIGAN

Acute appendicitis is the commonest of acute abdominal lesions and its immediate and remote mortality exceeds that of any other acute disease of any other abdominal organ or group of organs. In spite of the fact that its pathology, symptoms and treatment are well established, its recorded mortality has actually increased during the past twenty years. The statistics of the Metropolitan Life Insurance Company¹ show their mortality in 1911 was 10.9 per cent per 100,000 and in 1928 it was 13.7 per cent. Frederick L. Hoffman,² statistician of the Prudential Insurance Company, in a study of the mortality from appen-

dicitis in sixty cities shows the death rate per 100,000 has increased from 13.3 per cent in 1910 to 17.6 per cent in 1925. In the United States in 1926 the deaths from

appendicitis were 17,335, and from general peritonitis 12,655. In Michigan in 1928, the deaths from appendicitis were 746 and from peritonitis 83. In the light of this high total mortality, and especially considering a rising mortality rate, it seems worth while to

^{*}From the Department of Surgery, University of Michigan. Read before the Michigan State Medical Society, Benton Harbor, Mich. September 16, 1930.

[†]Professor of Surgery, University of Michigan.

again consider some of the well established facts concerning acute appendicitis. In order to examine the character of the treatment given in our clinic the cases of acute appendicitis treated in the University Hospital between September 1, 1925, and March 1, 1930, 392 in number, were analyzed with the special view of determining the cause of the mortality and how it might have been lowered. Only definite clinically and pathologically proven cases were included in the study. The material falls into two distinct groups. First, a group composed of University students who are referred to us by their Health Service and who are usually seen early in the course of the disease; second, a group composed of clinic patients who are referred to us from distant points and who are usually seen in late stages of the disease. The entire group does not represent a fair cross-section of the occurrence of appendicitis, as nearly a third of them are drawn from a large University population.

TABLE I

AVERAGE TIME ELAPSING BEFORE OPERATION
IN GROUPS

	Number	Time	Mortality No. %		
Students Male Female	100 28	30 Hours	2	1.55	
Others Male Female	178 86	9.1 Days	13	4.9	
Fatal Cases	15	4.7 Days			

This group represents what would be encountered in private practice among a well educated clientele. The groups are shown in Table I, together with the time elapsing between onset of disease and operation, and the mortality in each group. It is interesting to note the great difference between the time elapsing between onset of disease in the two groups, in one instance 30 hours and in another instance 9.1 days. The students are cared for by a keen medical personnel, who send the patient for surgical treatment as soon as appendicitis is suspected, which accounts in part for the earlier operation in this group. But an average delay of 30 hours is far too long for ideal treatment, and, since little time has been lost by the medical and surgical staff, the rest of the delay, at least one day, is due to procrastination by the patient. One must then deduce that a well educated class of individuals who presumably know of appendicitis, its dangers and some of its symptoms will bear the discomfort and pain of an attack of acute appendicitis for an average of one day before seeking relief. No economic aspect is present, since all students are cared for by the Health Service without additional charge. Therefore ignorance of the disease or fear of treatment play the important rôle in causing this delay. The delay of over nine days in the non-student group is probably due to many factors. Certainly, in many instances mistaken diagnosis plays a part, but many of these patients cannot afford to stop work and do not seek medical advice until the disease has reached an incapacitating or terminal stage. The high percentage of abscess, often of several weeks' duration, brings up the time element greatly.

TABLE II
COMPARISON OF NUMBER, MORTALITY
AND AGE

Age	No. of Patients	Male	Female	Mon	rtality %
rige	1 attents	Maie	1. cmaie	140.	70
1-10	27	17	10	2	7.4
11-20	122	77	45	1	.8
21-30	157	122	35	6	3.8
31-40	43	30	13	4	9.3
41-50	28	21	7	1	3.5
51-60	6.	6	0	0	0
61-70	8	5	3	1	1.2
71-80	1	1	0	0	0
Total	392	279	113	15	3.8

In Table II is shown the number of patients occurring in each age group with the mortality by group. It shows that the great majority, 68%, occur between the ages of 10 and 30, but also emphasizes the fact that no age is free from chance of the disease. The relatively high mortality in the first decade is a common finding in most clinics. The diagnosis is harder to make in the young, especially in infants, because of their inability to cooperate, and an inadequate history may cause delay and wrong treatment. There is a prevalent fallacious idea among the laity that abdominal pain is a normal occurrence in the young and that it only demands castor oil for its cure.

Large doses of purges were nearly uniformly given to the patients in this decade, the climax being reached in a child aged 4, who was given one pint of castor oil in two days. Needless to say, she died a few hours after admission. Skilled advice is only asked after the failure of drastic purges, with the result that all of Nature's attempts at localizing and walling off the infection have been frustrated before intelligent treatment The higher mortality in the is instituted. fourth decade is not usual, and is an abnormal showing such as will occur in an analysis of such a small number of cases. low mortality from ages 40 to 80 is unusual, and may be due to the fact that many of them were well localized abscesses before we saw them and recognizing the dangers attendant in appendicitis occurring past middle life, due to lowered resistance to infection, they were handled with great gentleness and conservatism.

TABLE III
ANALYSIS OF GROUP ACCORDING TO EXTENT
OF INFECTION

	Number	Drain	Mortality No. %		
Acute Appendicitis	233	25	1	.43	
Peritonitis Local	85	85	1	1.17	
General	19	19	10	52.6	
Abscess	55	55	3	5.45	

The local conditions found at operation are shown in Table III. No treatment is more brilliant than the removal of the appendix while the infection is still confined to this organ and there can be no dispute as to its advisability. The only death occurring after appendectomy for this type of case was from pulmonary embolism after the patient was ready to leave the hospital. will be noted that a number of this group were drained, perhaps unnecessarily, but with a constantly changing staff of younger surgeons we feel it wiser to urge too frequent rather than too infrequent drainage. They are told to follow the ancient surgical dictum of "when in doubt, drain," and I believe it a safe rule for those who have doubt. Certainly, in our experience, its advantages more than counterbalance its drawbacks.

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After the infection has extended to the structure immediately adjacent to the ap-

pendix but without involving the general peritoneal cavity such as are found early after gangrene and perforation, the mortality was still low. The only death in this class occurred in a patient with far advanced pulmonary tuberculosis, who died a few hours following appendectomy under local All of these patients were anesthesia. drained, although many of them might well have taken care of this local infection without drainage. The 19 cases of general peritonitis showed an appalling mortality of 52.6 per cent, which is much higher than the general mortality rate of this condition. One patient had gangrene of the entire ileum associated with the severe general peritonitis. Interestingly enough, this patient had had an attack with abscess formation six months ago, with drainage of the abscess. He had been advised to have an appendectomy in two months but had neg-The next attack killed. lected to do so. Three other cases were moribund on admission to the hospital, dying within a few hours. Another patient had far advanced pulmonary tuberculosis associated with general peritonitis and died a respiratory death one week after operation. Of the remaining five patients, one died of pneumonia in two weeks and the other four died a typical death due to peritonitis and intestinal ob-The first five patients in this struction. mortality group were in all probability beyond reach of any treatment, but the last five would have had a much better chance if operation had been delayed and the patients given the Ochsner treatment as discussed.later.

In Table IV one notes the greatest mortality in the patients who are operated upon between the third and sixth day of the disease. The resistance of the patient is at its lowest ebb, natural immunity is exhausted and acquired immunity is not yet established. Operative trauma and the opening up of fresh tissue surfaces to infection promote the absorption of toxins and spread of infection at a time when the patient is least able to deal with them. The condition may well be compared to an acute cellulitis that formerly would have been drained but which we now treat by conservative meas-Fifty-five patients presented well walled off abscesses and were treated with a mortality of 5.45%, illustrating the well known fact that the mortality decreases as the history lengthens beyond the three to

TABLE IV

MORTALITY, HOSPITAL DAYS AND COMPLICATIONS ACCORDING TO LENGTH OF DISEASE BEFORE OPERATION

Time Before Entrance	Number	Hospital Days	Mor No.	tality %	Post-operative Complications
To 12 Hours	74	8	1	1.35	6
12 to 24 Hours	100	11	2	2	8
2 to 3 Days	106	14	4 1	3.7	16
4 to 5 Days	41	16	4	9.7	8
6 Days +	71	24	4	5.6	17

five day period. With the knowledge that the infection is well walled off, operation was always delayed in this group until the patient's fluids were restored and his metabolism brought to normal by the use of glu-The operation consisted in drainage of the abscess and appendectomy if this were feasible. Our instructions to the staff are to remove the appendix if this can be done without breaking up the wall of the The more experienced surgeon abscess. will safely remove more appendices from abscesses than should be attempted by the less experienced operator. In this group the appendix was removed in forty instances and left in fifteen instances. These patients in whom the appendices are left are instructed to return in three months for appendec-The importance of this advice is borne out by the fact that three patients in this group had had appendiceal abscesses drained on previous occasions. One case, previously cited, died of gangrene of the intestine accompanying the second attack. Another case, a girl aged 12, had had three previous attacks with abscess, each time drained, before the fourth attack brought her to us for appendectomy. It is our belief that the patient who has had an abscess drained is far more likely to subsequent attacks than any other group of people. The surgeon must insist upon their return for appendectomy at some fixed time or be prepared to face other attacks.

The duration of the attack, as shown in Table IV, brings out graphically the rising mortality up to the fifth day of the disease. The mortality on the first day is very low. Of the three deaths in this time one was from pulmonary embolus and one from pulmonary tuberculosis, having only one death due directly to the disease. The steadily rising mortality in the next four days is due to the increasing frequency of peritonitis as

the disease progresses beyond the appendix, and illustrates the importance of operation during the early stages of the disease while the infection is still confined to the appendix. The lessened mortality beyond six days is striking and is due to the rising resistance of the patient and the walling off of the infection.

The importance of early operation from the economic viewpoint is well shown when one notes the constantly increasing number of days in the hospital with each day of delay in treatment. If operation takes place in the first 42 hours of the disease the hospital stay is eight days, with a steady rise in hospital days to 24 for those operated upon after six days. The increasing chance for post-operative complications is shown graphically with the attendant increasing disability and chance for mortality.

DIAGNOSIS

A history of previous attacks was given in 147 (37.5%) cases, confirming the fact that those who have had an attack of appendicitis are likely to have more attacks. It also shows that first attacks may be serious or fatal. The one constant symptom was abdominal pain, which also was the first to appear. The location of the pain was variable, usually being at first general or epigastric and colicky in nature. Local tenderness was elicited in every case, the location of the tenderness varying with the location of the appendix, and was found to be the most constant and definite sign of the disease. No attempt was made in this particular analysis to evaluate the commonly known symptoms in relation to the pathological condition present. In 1903 Van Zwalenberg³ drew our attention to the importance of hydromechanics and the ball valve fecolith as an etiological factor in the production of acute appendicitis and if we

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accept this and discard infection as the primary step in the initiation of the disease, the early diagnosis becomes clearer. general teaching has been that infection accounted for all of the symptoms and many textbooks yet give as the symptoms of acute appendicitis many that are due to attendant peritonitis. Van Zwalenberg4 says, The initial step is the formation of a closed pouch by the lodging of a plug of fecal matter, a fecolith or debris behind a narrowing in the lumen of the appendix. . . . Being a mucus pouch there is always some secretion and soon the pouch is filled with fluid. The active peristalsis of the appendix adds its pressure. It takes probably no more than 10 mm. of pressure to produce some interference with the venous and lymphatic flow in the mucosa and submucosa. This intraappendicular hydraulic pressure, slowing and later arresting the venous and lymphatic outflow, causing effusion from the capillaries with consequent edema into the tissues, results in distending the lumen of the appendix, opening all pockets in the mucosa and allowing infection to take place." If one will visualize this as a type of acute intestinal obstruction, the earlier diagnosis becomes easier and the important early symptoms are capable of explanation. The afebrile onset, with general crampy pain followed by nausea with or without vomiting, represents the period when we are dealing with appendiceal obstruction; later, as fever and leukocytosis appear, with shifting of discomfort to the right iliac region, the obstruction is complicated, and later tension relieved, by infection and vascular damage. The symptoms then are of some form or stage of peritonitis. It is important to emphasize emphatically this afebrile stage of appendiceal obstruction and its importance to early diagnosis. If we wait for definite signs of infection we are waiting for peritonitis. A history of abdominal pain with localized tenderness over the appendix means acute appendicitis and should be acted upon at this time.

In our experience, the commonest cause of delay on the part of the patient, and occasionally by the physician, is the assumption that the eating of certain foods will at times cause attacks of abdominal pain that will be relieved when the offending food has been vigorously expelled by a purge. It is no exaggeration that fully half the students seen with attacks of acute appendicitis

ascribed their attack to eating "hot dog" sandwiches. Lay diagnosis of "ptomaine poisoning" run the hot dog a close second as cause for delay. We must emphasize the rarity of food poisonings and the fact that no food, however exotic, will give attacks of acute abdominal pain. The diagnosis of "intestinal flu" is also a very common term with which the correct diagnosis of acute appendicitis is obscured until peritonitis intervenes. We have never seen a case of this so-called "intestinal flu," and, granting that the unknown etiological factor of influenza may cause an enteritis, it probably would give signs and symptoms more characteristic of enteritis as we know it than of acute appendicitis. The delusion that the local application of cold by means of the ice bag has a favorable effect on the disease is also a cause of much procrastination. We know of no evidence that this procedure does anything except cause anesthesia and delay. A patient may get well with "ice bag" treatment, but it is not because of but in spite of this treatment.

Chills occurred in thirteen cases, ten of whom had general peritonitis when the chill happened. The other three were cases of streptococcus infections of the appendix. If a chill is present it is strong presumptive evidence either that peritonitis is present or the infection not in the appendix, but somewhere else in the body. Leukocytosis was always found, except in one instance of an overwhelming generalized peritonitis with a leukopenia. The polymorphonuclear leukocytosis especially has been in general a valuable finding as showing the extent of infection and the resistance of the patient and the progress of infection. Without discussing the signs and symptoms at greater length it seems clear that much delay in making the early diagnosis is caused by the idea that the signs and symptoms of early peritonitis are those of acute appendicitis and in waiting until they appear before taking steps to initiate surgical treatment.

Complications are shown in Table V as they occur in patients grouped according to duration of the disease. The local preoperative complications have been briefly discussed, but one sees graphically the rapid increase of peritoneal infection after the first day of the disease, the great incidence of general peritonitis between the third and sixth days, and the great incidence of abscess after this time. The increasing number of

			Pre-	opera	tive	Post-operative									
Time Before Entrance	Number	Appendicitis	Local Peritonitis	General Peritonitis	Appendix Abscess	Pelvic Abscess	Lung Complications	Obstruction	Wound Infection	Subphrenic Abscess	Fecal Fistula	Abortion	Gangrene Intestine	Pulmonary Embolus	Pylephlebitis
To 12 Hours	74	68	6	0	0	2	1	1	1		1		1	1	
12 to 24 Hours	100	72	26	2	0	1	1		4	1			1		
2 to 3 Days	106	55	41	7	3	1 4	4.	4	1 +	1 1	2	1			
4 to 5 Days	41	15	7	5	14	3	1	1	1 +	1 1	2		1	-	
6 Days +	71	23	5	5	38	2	2	3	1 +		10				1
Total	392	233	85	19	55	12	9	9		1 2	14	1	1	1	1

complications with each day of the disease also can be noted. Of all complications, the most important are those grouped here under the preoperative group and are those due to delay in proper treatment. It is difficult to make an accurate separation of these local complications, and these figures are undoubtedly somewhat in error, but they probably are relatively true.

Pelvic abscess requiring evacuation occurred twelve times; many others showed signs of pelvic infection but cleared up with conservative treatment. The average length of time between operation and development of fluctuant abscess was eight days. Rise in temperature, frequency and burning urination, difficulty in deferation with diarrhea in about half the cases called attention to the presence of the abscess. A relaxed rectal sphincter was invariably present when the abscess was grossly in evidence. Perhaps some of these may be prevented, and it is our present routine to insert a catheter to the pelvis connected with an aspirator while the appendectomy is being done in all cases with free fluid of any sort, although many favor drainage by the rectal or vaginal routes. All of these abscesses were drained

outcome.

The pulmonary complications were extraordinarily few. Two were exacerbations of pulmonary tuberculosis, one a massive collapse of the right lung, one pleural effusion. The other five were broncho-pneumonia. There was one fatality in a patient with general peritonitis, and deaths in both patients with advanced pulmonary tuberculosis.

by the suprapubic route, with favorable

Adynamic ileus is generally associated with peritonitis and is the result of the in-This type of obstruction is not considered a complication but as an integral feature of peritonitis. Mechanical obstruction occurred in nine patients, always remotely due to infection. It usually was found to be obstruction of the low ileum in that part lying in the right side of the pelvis. Two of these resulted fatally, both in patients with appendix abscesses. free use of enterostomy was made in treating both the adynamic and mechanical obtions and we feel that our experience with it has led to a more frequent and earlier use of this procedure. To get the best results one must do it before marked distention has led to complete paralysis of the bowel. Its success depends entirely on the power of the musculature of the intestines to carry on peristalsis.

A sub-diaphragmatic abscess was present in two patients, both of whom recovered following drainage by the retroperitoneal route.

There were fourteen cases who developed a fecal fistula after operation, most of them occurring after drainage of an appendix abscess. All of them closed spontaneously during the convalescence without delaying it. In some patients it has been of great benefit in reducing distention and has drained the intestine as well or better than an enterostomy. In our experience all of them will close spontaneously unless a large rent has been made in the cecum, or unless one of the granulomas is an infecting agent.

Four patients were in the last four months of pregnancy and abortion occurred

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TABLE VI
TABLE OF MORTALITY

	Diagnosis	Days of Disease	Cause of Death	Day of Death	Remarks
1	Appendicitis Local Peritonitis	6 Hours	Pulmonary Embolus	15	Vascular Accident
2	Same	1	Advanced Pulmonary Tuberculosis	1 Hour	
3	Appendix Abscess	7	Intestinal Obstruction	10 Weeks	-
4	Same	18	Hepatic Abscess Pylephlebitis	10 Weeks	
5	Same	8	Intestinal Obstruction	8	
6	General Peritonitis	5	Bilateral Pneumonia	14	Due to Pulmonary Complications Only
7	Same	1	Gangrene Ileum	1	Hopeless
8	Same	4	Advanced Pulmonary Tuberculosis	7	Hopeless
9	Same	4	Peritonitis	1	Moribund
10	Same	5	Peritonitis	1	Moribund
11	Same	2	Peritonitis and Obstruction	8	
12	Same	3	Same	3	
13	Same	. 7	Same	1	Moribund
14	Same	2	Same	26	
15	Same	3	Same	13	,

in one with a severe peritonitis. The other patients ran uneventful courses. It is worth mentioning that walling off did not and cannot occur in pregnancy with the uterus up to the umbilicus or higher. This makes early diagnosis and early treatment imperative if one wishes to prevent peritonitis as a complacation of pregnancy.

One patient, a woman of 50 who had an abscess of eighteen days' duration, had pyelophlebitis and multiple small liver abscesses. She slowly grew weaker and died of this complication.

TREATMENT

In the presence of a preoperative diagnosis of acute appendicitis the incision is always made lateral to the point of tenderness, a muscle splitting like that of Davis or an oblique muscle cutting incision like that of McBurney. The approach is made from the lateral aspect of the peritoneal cavity rather than from its anterior aspect. This enables the appendix to be examined and removed, abscesses evacuated and drains to be placed without handling or contaminating small intestine. No exploration can be undertaken

through this incision, but in the presence of acute infection none should be attempted. If a mistake in diagnosis has been made, a new, properly placed incision can be made without detriment to the patient. If drains are necessary, the wound is very loosely closed around them with a minimal number of sutures. With drainage of abscesses drains are allowed to remain until general evidence of infection is absent, and are then withdrawn slowly. We cannot agree with routine removal of drains on any certain post-operative day. Appendectomy is the only treatment for acute appendicitis and should be urged and done on every case except in the presence of a grave constitutional condition. To advise waiting for an interval operation is to court disaster and is contributory negligence. In the presence of early localized peritonitis, operation should still be done, but with a minimum of trauma. After the disease has lasted forty hours, or earlier when purges have been used with signs of a spreading peritonitis supervening, delayed treatment should be seriously con-Positive evidence of the value of this procedure is not found in the statistics

given in this paper, but, quite the contrary, the bad results we have had with cases of this type have forced us to adopt the delayed treatment for this grave condition. Ochsner⁵ in 1902 first suggested the value of delaying operation in this group of cases with spreading infection. Sherrin⁶ used this type of treatment in the London Hospital for twenty years. Guerry, whose statistics showing a death rate of 1.6% for acute diffuse peritonitis are unexcelled, advocates the delayed treatment. Love⁸ gives statistics from the large London hospitals showing 3.8% mortality for delayed operation and 6.7% for immediate operation. Deaver⁹ advocated delayed treatment for all cases with diffusing appendicitis.

One hesitates to advise delay in operating for any phase of acute appendicitis since it will be misconstrued to mean the adoption of medical treatment. We must recognize that every case of acute appendicitis of any sort must be taken for surgical treatment to a hospital and placed in the care of a sur-The delayed treatment is surgical treatment and the operation is only deferred. It consists of the time honored regime of nothing by mouth, at least five liters of saline and glucose solution, Fowler's position, heat applied to abdomen, morphia used very sparingly. Many will respond to this regime but after twenty-four hours delay under this treatment some will require operation. If the pulse and temperature do not fall and the patient complains of increasing pain and distention, operation may be done. The relief of tension by a suprapubic drain, an enterostomy or cecostomy for relief of tension and a non-traumatic appendectomy can be done as good judgment indicates. As delayed treatment is carried on, localized abscesses may develop, necessitating drainage. If the patient is carried by the phase of acute spreading infection the appendix must be removed at some later date, not longer than three The treatment of abscess has been months. discussed previously but it can be safely reiterated that there is no need of urgent operation, and the patient can be brought up to a good surgical risk before the abscess is drained. If the appendix is not removed, it must be done in three months.

MORTALITY

Fatal cases are listed in Table VI, all of whom have been discussed. Cases No. 11.

12, 14, and 15 might have been saved if the delayed treatment had been carried out.

SUMMARY

A group of cases of acute appendicitis is analyzed showing a general mortality of 3.8 per cent. In the student group the mortality is 1.55 per cent. The disease lasted on an average of one day in this group before they called for surgical help. Fallacious diagnosis of food poisoning and "intestinal flu" were common causes of delay. In the entire series cathartics were commonly used and not rarely prescribed. The mortality, number of complications and hospital days increase with the duration of the disease up to six days. After that it localized and the mortality is less but the hospital stay is lengthened. The early diagnosis will be more frequently made when we realize that in its early period they are usually those of appendiceal obstruction, the infection appearing secondarily. We must not wait for the symptoms of peritonitis to make the diagnosis. The mortality in this series might have been less if the delayed treatment had been used on at least four cases of peritonitis. Appendectomy is the only treatment for acute appendicitis and surgical management the only treatment for its complications.

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DISCUSSION

DR. R. C. STONE (Battle Creek): Mr. Chairman, and Members of the Section: We all agree that Dr. Coller has presented the subject in a very masterful

way. He really has left very little for discussion. I think we are agreed with him, too, in the matter of diagnosis. In the treatment of acute appendicitis the diagnosis must be made early in order to keep our mortality down where it should be. I think that is one thing which should be stressed very pertinently in our discussions of this particular subject, because I believe most of us are having many more late cases of appendicitis being referred to us today than we were ten years ago. At least, that is my experience, and I know it is the experience of many of the more in my experience and my position of of the men in my community and my portion of the state. If we are going to save these people we have to get them early.

Dr. Coller's experience with delayed cases is much

the same experience we all have. I quite agree with him in the treatment and the question of enterostomy. The delayed treatment which he suggests, of course, takes us back twenty-five or thirty years ago, when Ochsner was doing his pioneer work in ap-

I am convinced with him that in those rapidly developing cases of peritonitis where the symptoms are not subsiding within a few hours or starting to subside, you have to immediately operate and drain

and remove the appendix if possible.

I have also in my practice adopted the same course which he recommends in the treatment of my abscess cases. If the appendix is there, when I drain, I remove it. If not, I never break up the protecting wall. I think that is very important, especially when you are considering the abscess cases which you get so frequently in your older patients. I take the majority of our older patients, where a larger number of them die, through with the simple drainage.

I have enjoyed the paper very much. I am grateful to Dr. Coller for having presented the subject of appendicitis, because, as I said a moment ago, I feel that it has been getting away from us, or at least getting away from the profession at large to some extent because of the fact so many of our cases are coming in late and our mortality rate is higher today than it was ten years ago, largely due to that fact. Thank you. (Applause.)

Dr. G. A. SEYBOLD (Jackson): The medical profession isn't proud of the fact that the mortality rate of appendicitis is on the increase. has gone over the subject thoroughly, showing you why the mortality rate is increasing. Yet I think those of us who practice out in the state and in the small, wide-open hospitals know of other causes for

the increasing mortality.

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Dr. Coller has covered the diagnosis thoroughly. I can't add anything to that. I was interested in the relation of a leukocyte count to the treatment of appendicitis, and in checking over a series of cases of acute appendicitis, in order to correlate the leukocyte count with the pathology, I have come to the conclusion the count is not always an indication of the progress or severity of the disease. While in general counts were higher, by a few hundred, in cases complicated by gangarene perforation or corriential complicated by gangrene, perforation, or peritonitis, there are many exceptions, and I believe that we should consider the count only as corroborative evidence in the diagnosis, along with the history of acute appendicitis and the physical findings.

Dr. Coller spoke of the drainage of appendiceal abscesses through the rectum and the vagina. He gives the mortality of 5.45. I believe in many cases the patient is carried through what would be a

fatal case by such a drainage.

I have practiced it several times. In fact, in reviewing 311 cases, with 16 cases of appendiceal abscess, these cases were either drained rectally or through the vagina or far out laterally through the abdomen, so we could open up back of the cecum and not get into the peritoneal cavity. There were

no deaths.

Dr. Coller spoke of drainage. When I went to school, drainage was spoken of very much. In fact, the old theory was, when in doubt, drain. I believe even in the mild cases where we have a suppurative appendicitis and some peritonitis, a small drain will Where there is a general suppube of great help. rative peritonitis with pus everywhere in the abdomen and pelvis, I think the tube put down in the cul-de-sac and numerous so-called Ferguson drains put into the kidney pouch and the cecal fossa will get these patients through when otherwise they would have died.

In the postoperative treatment of all cases of appendicitis, there is very little variation in technic. I don't believe in using the so-called button or buttonhole or McBurney muscle-splitting incision in any case of appendicitis unless we are sure there are no adhesions and no complications; and that limits the indication to using it in the male patient in the very, very beginning of the disease.

I think ileostomy has saved many patients. I believe, with Dr. Coller, that if one ileostomy isn't

enough, two are indicated.

So, boiling down to a few words, the important points in any case of appendicitis are careful history taking and good examination, taking into considera-tion the leukocyte count. The pulse and tempera-ture seldom mean much in immediate operation. In the operation I think the thing that saves many, many lives is careful, gentle handling of tissues, not tearing down adhesions. In a simple case, I think it is faulty technic if we expose in the wound more than the cecum. If we expose a whole lot of intestines we have run the risk of spreading infection and lessening the patient's chances.

Dr. C. D. Brooks (Detroit): Mr. Chairman and Members of the Section: I wish Dr. Coller had time to take up in detail all the things we would like to have him. He could also mention the fact one of the discussors mentioned, the leukocyte count being of too much importance in diagnosis.

I think another thing he could say was that one cause of mortality of appendicitis, besides the delay in making a diagnosis and prompt treatment, would be waiting for the leukocyte count to make a diagnosis for you. One of the most dangerous treatments is the use of the ice bag. If all the ice bags were piled up together and put beside the patients who died of appendicitis in a year, they would be about the same height—the ice bags on one side and the dead patients on the other. I feel that nothing is more dangerous than an ice bag in a case of appendicitis. It has no place on the abdomen in acute infection or in suspected appendicitis. It masks the symptoms and delays a correct diagnosis; after the ice bag has been applied for a few hours, and then a surgeon is called in, it has taken away the most important clinical symptom, that of local rigidity or muscle spasm.

Regarding the secondary phase of peritonitis, complicating appendicitis, we believe, as Dr. Coller mentioned, that the mortality would be nil if operation can be undertaken before the onset of peritonitis.

Dr. Coller said many lives are saved by proper surgical management in the late cases. Patients should have morphine or codein if necessary to re-Patients lieve the restlessness, the stomach should be emp-tied every three or hour hours and should be irrigated with two per cent saline. Absolutely no cathartics or enemata should be given, only sips of warm water by mouth daily, and glucose twice a day, 50 c.c. of 50% glucose in 200 c.c. of distilled water. We believe saline by hypodermoclysis also is very important, and give 200 or 300 c.c. every hour in the pectoral region. Fluids per rectum may not be absorbed and should not be relied upon to relieve the dehydration in these desperately sick patients.

In operations upon patients with ruptured and gangrenous appendices, the operation should be as short as possible, as these patients, especially if they are children, will not stand a long operation.

We believe enterostomy is very important at the time of operation, when there is marked small bow-el distention, and vomiting. Cecostomy acts very well, a small catheter, size 24 Fr. is placed in the cecum after removal of the appendix and is sutured in place with No. 0 or 1 catgut. Besides the tube being of great value for the escape of flatus it is valuable to use for the instillation of fluids which are given every three or four hours, and a clamp placed on the tube so that these fluids may be re-

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tained. One half hour before the instillation of fluids the clamp is removed to allow the escape of flatus. We believe that simple ligation of the acute gangrenous appendix is best, and the stump of such appendices should never be inverted. Spinal anesthesia is one of the most important aids in operating on these cases, as the operation is much easier for the patient and also for the surgeon. One does not have to put any pads in the cavity to carry the pus further back and injure the bowels, and the operation can be performed accurately and rapidly and with extreme gentleness.

DR. WILLIAM J. CASSIDY (Detroit): This paper belongs in the field of General Medicine rather than in the Surgical Section. Surgeons have been pretty well and thoroughly convinced on the early operation and early diagnosis of appendicitis.

It isn't the easiest thing in the world to diagnose appendicitis. We don't always have abdominal pain, vomiting and muscular rigidity. If that held true, even the layman could diagnose appendicitis. I have seen hundreds of cases that baffled even the most astute clinician to put his finger on it and say, "That is appendicitis," before he opened it up. How many have you seen opened up, after the most careful evaluation was made, to find that the case did not confirm the diagnosis?

So we should not be too harsh in our criticism of some of our confreres. The general practitioner does well with what he has to do and what he has to work with and the general education he has received.

So far as the mortality in the surgical field is concerned, any department is just as efficient as the training of the men in that department. The relative number of blunders and relative number of mistakes are directly proportionate to the efficiency of the men. That reverts back again to your fundamental medical training.

If we don't teach men to rapidly tie knots, or to efficiently use their hands, the time limit extends way beyond that which it should. If anatomical dissections are across the lines of cleavage, not with the lines of cleavage, wide dissection with a great deal of tissue damage is done. In many cases inability of the surgeon to orient his pathologic anatomy because he doesn't visualize his ordinary simple gross anatomy, causes fumbling and stumbling. He should be able to finger it, and not necessarily to open the patient from the umbilicus to the pelvis in order to

deliver a simple appendix. Nor should he handle two feet of bowel to find the appendix. That is what you see so many times.

I think Dr. Coller hit the nail on the head again when he tells you the mortality is rising. It is rising in all the acute and the abdominal infections and is carrying more people away in this country and practically every country in the world than cancer. Yet we are organizing more cancer committees all the time, and neglecting the other.

Dr. Frederick A. Coller (closing discussion): I want to take this opportunity of thanking those who have discussed this paper for bringing out many points upon which I did not touch.

I quite agree with Dr. Brooks about the ice bag. I don't know who started the idea, still prevalent, that an ice bag will have some effect on appendicitis. I don't believe it has any effect at all, except it may give some local anesthesia and cause delay that otherwise might not occur. In my opinion, it is bad practice to give a large dose of morphine at the same time to still more effectually mask the symptoms. There is no evidence in existence that the ice bag has any influence on the course of appendicitis.

I didn't go into the matter of technic at all in the paper. It is my own feeling, as Dr. Vanden Berg stated, that it is better to approach the appendix from the side. So many of them are paracecal and easily reached only from the right side. Drainage across the small bowel through a median or a right rectal incision I am sure causes obstruction in many cases. I prefer to go in the side and, and he says, if you have made a mistake, no great harm is done and you can reorient yourself and go where etiology indicates.

In summary, I would like again to emphasize that the mortality of acute appendicitis is high and there is evidence to show that it is increasing, as all of the discussers have brought out.

The diagnosis may be easy. Oftentimes it is very, very difficult, and the symptoms we have been going on, that have been taught to us, are those of some phase, perhaps an early phase, of peritonitis. And when all is said and done, I know of no group of cases that may require the greater surgical judgment and great surgical skill than certain phases of acute appendicitis. I believe these are cases for the experienced surgeon if we are going to lower this mortality.

Again I want to thank the discussers for bringing out so many points I failed to cover in my paper.

TREATMENT OF PEPTIC ULCER WITH

GASTRIC MUCIN

According to Samuel J. Fogelson, Chicago, gastric mucin prepared from hog's stomach is only a mild excitant of gastric secretion. Gastric mucin has a high combining power. Two ounces of mucin placed in the stomach of a dog was more than sufficient to combine with the acid secreted in response to the injection of 1 mg. of histamine. When half an ounce of mucin was mixed with a pound of meat and fed to a dog, free acid did not appear in the dog's stomach throughout the period of observation of from five to seven hours. Complete relief from symptoms for varying periods of from two to five months was afforded to twelve patients with classic histories and roentgen appearances of peptic ulcer by feeding them about an ounce of hog's gastric mucin three times a day with their meals in addition to about 30 grains of mucin in tablet form hourly throughout the day.—Journal A. M. A.

USE OF VITAMIN B IN DIETS OF INFANTS

Wheat germ and yeast in the form of dried powdered watery extracts when added in the proportions of 1 gm. of wheat germ extract and 0.5 gm. of yeast extract to 1 ounce of a preparation of maltose and dextrin and fed to infants by B. RAYMOND HOOBLER, Detroit, caused no appreciable gain in weight over controls who were fed on similar formulas without vitamin B additions. Infants given vitamin B additions showed a greater growth in recumbent and stem length than controls not given the vitamin B additions. About one out of six of the infants studied showed symptoms of rigidity. This symptom disappeared in all but six of the cases, indicating that the quantity of vitamin B needed by infants differs greatly, and that one should bear in mind that while the amount of vitamin B in the commercial carbohydrate preparations may be sufficient for certain infants, there are others who will require larger quantities.—Journal A. M. A.

ROENTGEN FINDINGS AS EVIDENCE IN MEDICO-LEGAL CASES

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Physicians are being called upon more and more to give testimony in our several courts in cases of bodily injury or illness associated with certain occupations. There are three conditions which are factors in the increase in this field of medical activity:

With the substitution of machines for man power, and motor driven for horse driven vehicles, the number of injuries more or less disabling has increased at a rapid rate, and every such injury is a potential damage suit.

The surplus of labor resulting from the installation of labor saving machines has

made employment unsteady, and employees use the compensation act to force employers to keep them on the payroll or to pay them damages for injuries never sustained, or for symptoms in no way related with the compensable injury.

The location of colleges of medicine and law in large centers of population, with low entrance and graduation requirements, has permitted the entrance of many into the practice of these professions who are utterly lacking in the instincts necessary for the proper conduct of their calling. Collusion between unscrupulous lawyers and physicians who give dishonest medical testimony is of frequent occurrence and is a serious problem in medico-legal practice.

Physicians who are called upon to care for many injured should have knowledge of court procedure and be familiar with the aims and purposes of the workmen's compensation laws.

The basic principle underlying all workers' compensation statutes is that "business" should carry the financial burden incident to injuries to and sickness of employees "arising out of and in the course of their employ-The right to claim compensation depends solely on the incapacity, partial or complete, to earn wages by reason of personal injury by accident sustained under the above conditions. No provision is made for any claim based on the pain and suffering endured by the injured worker or for sentimental damages.

The question of occupational diseases is being given more consideration and in a greater or less degree such diseases are being classified in the category of personal injury arising out of and in the course of employment.

Frequently it becomes necessary to debate the exact definition of the word "accident." Several definitions have been suggested and adopted by various legal authorities. The English have defined accident as "an unlooked for mishap or an untoward event which is not expected or designed." American definition states that "an accident means an unexpected or unforeseen event happening suddenly or violently, with or without human fault, and producing at the same time injury to the physical structure of the body."

In workmen's compensation jurisprudence, the word has attached to it the meaning of personal injury by accident. Necessarily there is some particular occurrence or event, and happening, at some particular time. A very definite distinction is made between injury by accident and injury that has been gradually acquired. In the latter class of cases, the accidental element is wanting and save in the case of statutory occupational disease, there exists no basis for any legal claim for compensation against the master or employer. It is recognized, or should be, that there are necessary and ordinary effects upon a man's constitution from the work in which he is engaged from day to day.

But a liberal interpretation and administration of the compensation statutes is extending the limits of industrial liability far beyond the area of that contemplated by the creators of compensation insurance. Thus it has been held that a physiological lesion or damage sustained by a workman in the course of his employment constitutes an injury, even without extraordinary effort or The fact that the man unusual conditions. did not foresee or design the event is held to satisfy the requirement of the compensation law.

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In the appendix of a book recently published entitled "The Doctor in Court," Judge Fricke has this to say in discussing the expert witness: "He must ever keep in mind

expert medical witness, for he will be of little value to either contestant. And it could be added further that if he is called it will be difficult for him to follow this ideal be-



Fig. 1. A developmental abnormality sometimes interpreted as fracture. A supernumerary scaphoid, the so-called prehallux.

Fig. 2. An infrequent sesamoid. The small bone lying opposite the cuboid is not a detached fragment.

that he is not an enlisted man forming a part of the army of offense or defense for the side which calls him. He is called as a man having special knowledge, to relate what facts he has learned as to the matter involving his special knowledge and to give his own personal and unbiased opinion on that matter. He must carefully guard against his being influenced, consciously or unconsciously, by the fact that a particular contestant has called him. He must satisfy himself as to the honesty and sincerity of the person who calls him and of the person in whose behalf he is called. He should be absolutely indifferent as to the ultimate outcome of the trial. His testimony when concluded should be a credit to his service and profession."

Any of us who has had a more or less extended court experience well realize that a physician who attempts to follow this ideal will rarely be summoned to serve as an cause of the wishes and attitudes of the attorneys and the rules of the court.

But while it is true that the variances and contradictions in medical testimony are often due to and explained by bias or prejudice or actual dishonesty on the part of the witness, yet the conflict in statements many times is based on honest difference of opinion regarding certain medical problems; that is, there are certain moot questions with authorities holding opposing views, and then there is the difference of opinion due to variations in quality and degree of training and experience.

In the branch of medicine in which I practice—roentgenology—errors of inexperience can be grouped under the following headings:

- 1. Interpreting normal structures as pathologic or traumatic.
 - 2. Interpreting anomalies or variations

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in structure as changes incident to disease or injury.

3. Interpreting certain pathologic or disease changes as evidence of injury or acute trauma.

ration. True fractures do occur at this point (Shepherd's fracture).

c. Hamstring sesamoids reported as avulsed fractures or loose foreign bodies in the knee joints.

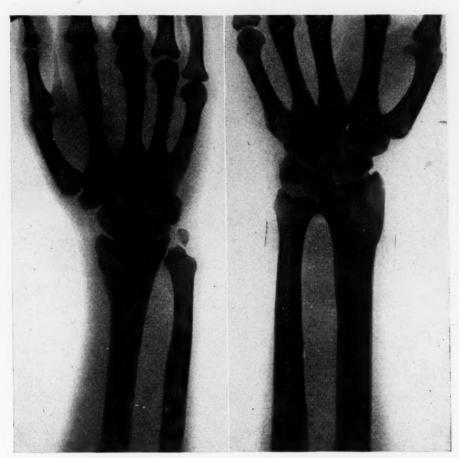


Fig. 3. Chronic changes in radio-ulnar joint and at ulna. Patient claimed recent injury, denying previous disturbance.

Fig. 4. Changes in radio-carpal joint secondary to old scaphoid fracture. Recent injury, but old injury not admitted.

Among examples of Group 1 can be mentioned:

- a. Blood vessel grooves on shafts of long bones such as fibula or clavicle, or markings on the inner table of the skull considered as traumas. These latter are especially confusing.
- b. Irregular calcification of the costal cartilages, especially the twelfth at its anterior extremity, considered fracture.
- c. Variation in rib structure due to overlying pulmonary shadows interpreted as intrinsic rib change.

In Group 2 may be included:

- a. Accessory tarsal scaphoid or the socalled pre-hallux, mistaken for detached fragment, especially in the presence of swelling and tenderness.
- b. Os trigonum or astragaloid tubercle if non-united, considered a traumatic sepa-

- d. Sesamoid at acetabular margin as fracture of the ilium.
- e. Occult spina bifida at any spinal level considered as fracture.
- f. Rudimentary ribs—first lumbar segment—interpreted as fracture of the first lumbar lateral processes.
- g. Bipartite carpal scaphoid as fracture, and many others less common.

In Group 3, the most common and most important errors are in connection with the classification of lesions of the spine—important because many individuals have spines showing advanced cartilage and bone change without the history of permanent symptoms or history of injury, and important because of the popular idea that any deviation from the normal in spine structure is a most serious matter. In spite of the great emphasis placed on differential diagnosis of deformi-

ties of the vertebral bodies, we have been involved in three suits within the past few months in which medical witnesses for the plaintiff testified that certain deformities

jury that this patient suffered no fracture.

2. A number of studies have been reported on large series of roentgen films of the spine and it is agreed that pathological

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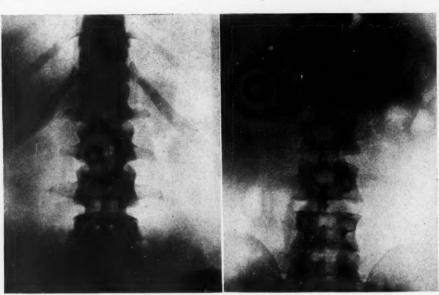


Fig. 5. A unilateral lumbar rib. Often interpreted as fracture of lateral process of first lumbar segment.

Fig. 6. Another developmental abnormality—a bilateral lumbar rib.

demonstrated were the result of injury producing compression fractures, while all of the evidence, clinical as well as historical and roentgenological, definitely indicated the destruction or distortion due to an inflammatory or infectious process. These three cases illustrated the three most common types of spinal deformities resulting from infection or chronic disease.

1. It was early observed that chronic inflammatory or chronic irritative changes occur with great frequency at the lower cervical level. The lesions are observed in all classes of patients and usually they are not associated with symptoms or signs. The new bone formation occurs at the anterior angles of the fifth and sixth cervical segment bodies and, depending upon the stage, there is thinning of one or more of the intervertebral cartilages.

A passenger on the Michigan Central Railroad claimed an injury to the neck when by sudden starting or stopping of the train his head struck the section partition. Roentgen studies of his neck were made, and the examining roentgenologist reported compression fractures of the lower cervical bodies. As expert witnesses for the defense, we repeated the study and reported no fractures but rather chronic irritative changes. We were able to convince the judge and the

changes occur most often in the lumbar and lumbosacral regions, and less frequently at the thoracic level. We have observed, in our study of the thoracic spine, that it is the exception when an adult spine does not show osteophyte formation at the anterior angles of the bodies at the mid-thoracic levels and in some of these cases thinning of the intervertebral cartilage also. Many of these patients are symptom-free and with a negative A certain few present a spinal arthritic history with acute symptoms. roentgen findings in these cases include uniform narrowing of one or more bodies or irregularities in gross structure with uneven outline, spur formation at the articular margins and atrophy of cartilage. findings indicate a condition of spinal epiphysitis, with old and inactive changes.

A young man of 28 was involved in an automobile accident. Roentgen studies of his spine immediately following demonstrated narrowed bodies in the mid-thoracic region and his physicians diagnosed compression fractures and treated him accordingly. He sued some months later and we were asked to repeat the X-ray studies. We included the entire spine and found extensive changes incident to a widespread epiphysitis. We were able in this case to convince the plaintiff's experts that the condi-

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tion was one of chronic disease rather than fracture deformity, the case being settled on this basis. Our conclusion in this case explained a remark made by the plaintiff's process from infection rather than traumatic deformity. (Fig. 5.)

The cases in which there is conflicting medical testimony from competent and con-

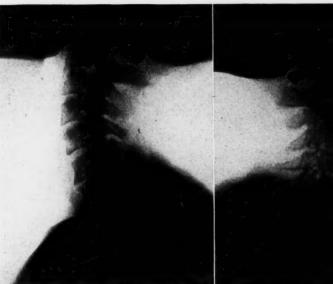


Fig. 7. Early chronic irritative changes at anterior angles of sixth and seventh cervical segments. Patient claimed injury. His physician diagnosed deformity as fracture. (This not sustained in court action.)

Fig. 8. Advanced chronic irritative changes involving all cervical bodies. An incidental finding. No symptoms referable to neck.

wife to him at the time of the accident that "I hope your back trouble will not come back again." (Figures 3 and 4.)

In the group in which definite pathological changes in the spine are diagnosed as the result of trauma, the outstanding example is the confusion of distortion due to Pott's disease and deformity due to compression fracture of the vertebral bodies. Differential diagnosis should not be difficult, because both have a characteristic roentgen appearance. In the presence of Pott's disease, the primary involvement is usually in the intervertebral cartilage, the bone structure being involved by direct extension. In the case of fracture, the cartilage is usually intact and especially if examination is made early following injury and the deformity of the bodies is associated with bone condensation or increased density rather than de-

A driver fell from his truck, sustaining injuries to his back. Roentgen studies immediately following the accident revealed spinal deformity in the lumbar region interpreted by the examining roentgenologist as compression fracture. As consultants, we re-examined the patient and the lesions demonstrated were typical of a destructive

scientious witnesses usually are concerned with the following problems:

- 1. Is injury or trauma an etiologic factor in the causation of malignancy?
- 2. Does trauma influence the progress of malignancy?
- 3. Is the course of an infectious disease, either local or general, altered by trauma?
- 4. Is injury a cause, direct or indirect, of arthritis and is traumatic arthritis a clinical entity?
- 5. Are there limitations to the roentgenologist's determination of joint function or are there roentgen signs permitting the estimation of joint disability or the presence of pain?

All of these questions are arising daily in our courts and their discussion would be profitable, but obviously they can not all be considered at this time. Therefore I will deal only with tumor and arthritis and some general infections as they are influenced by injury.

TRAUMA AND MALIGNANCY

Of increasing interest and importance to industrial surgeons is the relation of trauma and malignancy. In spite of any scientific support, there is a growing popular belief that tumors at times are caused by simple or single injuries, and this idea is reflected in the increasing compensation and court awards in such cases.

Recently a case was heard before the

authorities on malignancy regarding the relationship of trauma and new growth. The commissioner decided in favor of the plaintiff, but an appeal was made. However, the



Fig. 9. Deformity of thoracic vertebral bodies secondary to epiphysitis. Wrongly interpreted as compression fractures.



Fig. 10. Lumbar spine of patient in Figure 9. Note limited evidence of epiphysitis involving first and third bodies.

Michigan Industrial Accident Board in which it was claimed by the plaintiff that an injury to his chest had caused the development of a cancer of the stomach. The testimony indicated that the blow to the lower mid-anterior chest wall did not result in any local tissue damage, but some twelve or fifteen hours later the plaintiff developed a rather severe gastric hemorrhage. Within three months of the alleged injury a roentgen study of the stomach revealed a moderately advanced gastric carcinoma involving the posterior wall high up. months later a laparotomy was done and an inoperable tumor found. The clinical course of the case was that of the usual malignancy of the stomach, with occasional hemorrhages and progressive loss of weight and The defense testimony stressed strength. the absence of any tissue damage at the point of injury, the protected position of the upper end of the stomach and its nonrelationship to the lateral chest wall, the fact that the extent of the tumor would place its development much earlier than the injury and that the history of this case indicated the usual progressive stomach malignancy. In addition, the defense witnesses in their testimony gave their own experience and the opinions of Ewing and other

decision of the full board has not been handed down.

Before a connection can be established between the development of a tumor and a preceding injury, Ewing suggests the following requirements:

1. The authenticity and the sufficient severity of the trauma must be established.

2. The previous integrity of the wounded part must be shown.

3. The identity of the injured area with the site of the subsequent neoplastic growth must be demonstrated.

4. The tumor must be shown to be a type which could result from trauma.

5. The proper interval of time must be proved to have elapsed.

In the above case none of the conditions required by Ewing were met and yet the case was lost by the defense.

Lubarsh summarizes the facts against the theory of traumatic causation of acute tumors as follows:

1. That blows and other injuries generally call attention to hitherto unsuspected tumors and that proof of the existence of such unsuspected growths is given by the fact that neoplasms which have never given recognizable symptoms are constantly being discovered at autopsies.

2. That injuries are infinitely more frequent than neoplasms.

In this connection, the following observations are convincing:

a clear history of growth and metastatic extension promptly following direct physical trauma.

Considering all the clinical and labora-



Fig. 11. Spinal deformity due to tuberculosis. Note destruction of intervertebral cartilages and beginning involvement of bodies. Demineralization is characteristic of tuberculosis.



Fig. 12. Vertebral body deformity due to a chronic osteoarthritis and former epiphysitis. Wrongly diagnosed as a multiple compression fracture.

a. Carcinoma and sarcoma incidence among many thousands of New York State injured workmen conforms to the average of the general population.

b. In spite of injury to millions during the world war, there was no increase in the number of cases of malignant disease reported and no increase in the death rate from these causes.

3. That many tumors have a long latent period.

4. That experimental evidence for the theory that a single trauma can cause a tumor is lacking.

But while it is generally agreed that a malignant tumor does not develop from a single injury to a normal tissue, there is some evidence to support the view that a single injury might excite a pre-existing abnormality of benign tendencies to rapid or malignant growth. This is not in accord with Ewing and other pathologists but as an example of this possibility I suggest the frequent excitation of melanosarcoma to increased local growth or early metastatic spread by incision or excision or attempted destruction by chemical or electrical methods. In a paper recently presented dealing with our experience with melanosarcoma, seven cases out of forty-two reported gave

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tory observations, the following conclusions are consistent with the facts:

1. Causative relationship has never been completely established.

2. Possibility of single trauma inducing tumor in a limited number of situations, but proof is lacking in these few cases.

3. Experimental producing of tumor by single trauma necessary to establish relationship.

4. Award of compensation solely on this basis of production of tumor by single trauma not justified.

5. Justification for awarding compensation on basis of collateral or adjuvant agent—if proof of injury is established and microscopic demonstration of malignancy is done.

6. In compensation awards, the condition appears to be one of injury calling attention to a tumor pre-existing.

TRAUMA AND ARTHRITIS

Of less academic interest, but of greater practical importance, is the question of the relation of injury to arthritis, generalized or localized. The testimony of the roent-genologist is vital in these cases, owing to the fact that his statements are based on records—roentgen films—that enable him and permit him to draw conclusions as to

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evidence of disturbed function or basis for disturbed function. Not only can the roentgenologist determine the direct results of injury or disease, such as disturbance in frank inflammatory changes. Extrinsic trauma produces also the so-called non-articular arthritis, such as housemaid's knee, sprains and strains, but again the changes

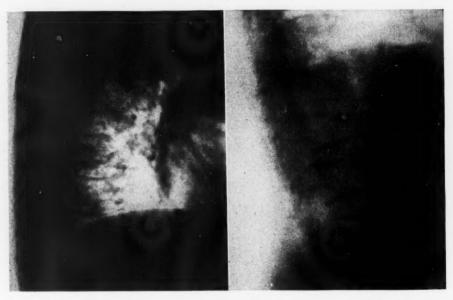


Fig. 13. Vertebral bodies narrowed and markedly deficient in lime. Represents parathyroid dysfunction and not deformity due to injury.

Fig. 14. Same as in Figure 13, with changes less advanced. Impression is given of limited compression fracture.

gross bone structure, outline or alignment or relations, but indirect changes also are demonstrated, such as the various atrophies and the secondary chronic irritative changes, not only in bone tissue but also in cartilage and soft tissues. In other words, the pathology of arthritis is best revealed by roentgen examination and the most satisfactory classification is based on the roentgen findings.

The diagnosis offered by many medical witnesses as a basis for claim for excessive damages in court cases or permanent disability in compensation cases is traumatic arthritis. The clinical testimony is often supported by the roentgen records, especially if the symptoms are referable to the spine.

In the general classification of arthritis by Henderson and Hinch of the Mayo Clinic, trauma is considered an etiological factor, and a group is so named, but the word "trauma" is used in a broad sense. Extrinsic trauma may produce a condition simulating acute arthritis, base-ball finger being an example of the articular type. This condition is not a true arthritis, for here the signs and symptoms are directly due to fractures, ruptures or tears and effusions into joint spaces, and not due to

present indicate results from chronic irritation or definite tissue injury and not a frank arthritis.

Under intrinsic trauma can be considered all those conditions in which undue stress or strain is exerted on any part of the body for long periods or repeated short periods. The spine is the structure most frequently subjected to these chronic conditions and this fact explains the almost constant presence of one or more of the following pathchanges — narrowing of joint spaces, variation in density at articular surfaces, bone overgrowth at articular margins or angles, or spur formation at ligamentous attachments and variations in bone texture or gross structure. All of these changes are characteristic of arthritis of infectious origin, yet also they all can be brought about directly by chronic irritation associated with bad postures or malpositions or the undue stress or strain incident to obesity or to unusual occupations. In addition, many of these changes are associated with or result from abnormal body metabolism exclusive of obesity.

So when a witness supports his clinical diagnosis of a traumatic arthritis with certain abnormal findings, the opposing counsel is justified in questioning this testimony and forcing him to admit that similar conditions frequently exist without history of injury and without disturbed function.

A practical application can be made of

and that probably any symptoms complained of are assumed or at least greatly magnified. And, of course, granting the presence of such changes, additional proof must be







Fig. 15. Note marked changes in one thoracic and one lumbar vertebral ity-body. Distorted spinal segments in adults may have their origin in child-hood disease.

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Fig. 16. A low "Sprengel's" deformity—wrongly interpreted as Pott's disease and so treated.

Fig. 17. An extreme fracture-dislocation of lumbar spine. Patient complained of few symptoms and had no disability.

these facts (referring to spine changes induced by posture and position) and progressive industrial physicians are seeing to it that workers are protected from "industrial fatigue" by "suiting the job to the worker rather than the worker to the job." That is, the worker's physical build is studied in relation to the nature of his employment. Incidence of disability from back injuries has been lessened in certain English industries by the application of the following rule: "Short backs for heavy work and long backs for speed." In like manner, attention to providing proper height for benches and desks has resulted in lessened complaint from back disorders.

If it is true that tissue changes demonstrated by roentgen-ray examination result from stress and strain or wear and tear in individuals giving no history of injury or active disease, and no evidence of focal infection, it should be a proper conclusion that any claim for disability, partial or complete, based on a diagnosis of arthritis—traumatic or otherwise—should be supported by films revealing tissue change as a basis for or evidence of disturbed function. Should the claim be based on a back injury and films of the spine and pelvis reveal no chronic irritative changes, nor frank arthritic changes, there is justification for positive testimony that the claimant is not disabled



Fig. 18. A melanosarcoma excited to malignant growth by a single injury—excision by barber.

advanced that they are of clinical importance. Of, if a claim is based on disturbed function following healing of a fracture of a long bone, there should be testimony presented stating tissue change in joints formed by the involved bone. Were the case one of tibial fracture and impaired function of the ankle was claimed, such claim must be supported by statements of tissue change such as bone atrophy, demineralization or bone condensation, bone overgrowth at the articular margins, or any of

the many changes associated with chronic or prolonged disturbance in function.

It is fortunate that permanent and demonstrable joint changes occur so frequenttach too much importance to roentgen fi dings. It is charged, justly, that undue reliance is often placed on the testimony of the roentgen diagnostician. Yet there is no

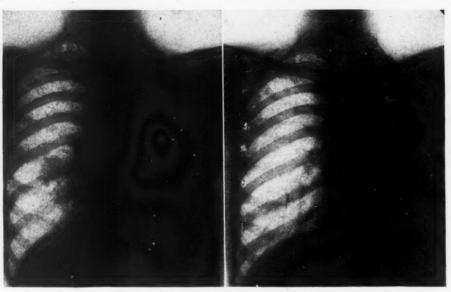


Fig. 19. Very chronic pleural and pulmonary changes in left thorax and earlier changes near right root. Plaintiff claimed injury to lower left ribs was cause of lung condition. Roentgen study within six weeks of accident.

Fig. 20. Same as Figure 19, two and a half years later. Condition of left lung constant; healing by resolution of lesion in right lung. Claim of injury inducing tuberculosis not sustained.

ly in cases of injury or disease, for owing to this fact one can often state that an injured member has suffered a previous injury or that an old lesion or deformity is being used as evidence of recent trauma. So often a patient has denied a previous injury and yet his imperfect memory is corrected when he is confronted with undeniable proof of a former fracture.

Our ability to demonstrate these many variations in joint or other tissue structure has not served always to advance justice. Undue importance is often attached to variation in structure, outline or relations of anatomical units and excessive awards are given because of some apparent abnormality. Due consideration should be given to the determination of the clinical importance of a given deviation from the normal. Certainly one hundred per cent perfection in anatomical structure is not required for one hundred per cent function and yet total disability is often granted because a minor structure change has been proved or admitted. Granting that tissue imperfection and certain degrees of impaired function are present, it is obvious that many individuals can and do perform satisfactorily the duties in many situations with this handicap.

We should be cautious that we do not at-

other method that brings to the examiner such a reliable record of past events, presents a more comprehensive view of present conditions or permits a more accurate prognostication of coming events.

Attorneys and claimants are taking advantage of the usually accepted view that certain conditions due to local infection are closely associated with injury, and are making claims for compensation in cases of tuberculosis or syphilis, the employee having had an injury more or less severe or imagined. Within the past month I have been involved in a case of thoracic Pott's disease, in which claim was made that an injury to the anterior chest wall, so slight that no skin or other changes occurred, resulted in the tuberculosis of the spine, and a second case, in which, six or seven months after the workman received a blow on his right chest near the sternum, producing no appreciable tissue change, a diagnosis of pulmonary tuberculosis was made, based his suit for compensation on the claim that the injury was directly the cause of his tuberculosis and associated disability.

In each of these cases plenty of medical testimony was offered supporting these claims and in both cases the ruling of the commissioner was for the claimants. Yet

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in reither was there any testimony offered that described in the slightest degree the tissue change or damage incident to the alleged injury, nor was any attempt made to indicate what tissues, if any, were involved. Neither was there any satisfactory or convincing evidence that these workmen were not suffering from their disease at the time the accident, and no effort was made to plain or describe the exact method or echanics of the association of the injury d the disease. These medical witnesses emed content to testify that the disease resuited from the injury and apparently weigh not concerned in ascertaining how they arrived at such a conclusion. They accepted the sequence of events as a cause and effect -an unscientific and unjustifiable reasoning

The increasing burden being placed on employers for the medical care of their injured help and the resulting compensation will necessitate action on their part to reduce the number of claims or to lessen the awards.

This can be done in part by more comprehensive examinations preliminary to employment, and it may involve roentgen studies of the chest and spine, in addition to careful physical examinations. Help will

come from greater care in examination of the injured and the making of accurate records. In this connection roentgen records are of especial value. It has been our custom when making a roentgen study of the chest for rib fracture to supplement the bone study with a film to show all the intrathoracic structures. This frequently results in the discovery of unsuspected lung or heart disease. And the more frequent use of roentgen examination when injuries appear trivial, or when there is no clinical evidence of fracture, will be found to be advantageous. In a recent communication it was shown that six per cent of fractures about the wrist were unrecognized at the time of injury or for some days following. And further, roentgen records made during the treatment of fractures or at times of discharges of such patients will prevent unfair judgments.

Finally, all employers and physicians should be familiar with the attitude of our courts as to the importance of roentgen examination and records. With proper examinations by competent examiners justice will be better served to employer and employee alike.

The accompanying illustrations show conditions described in the text.

WOMEN IN MEDICINE

SUSANNE SANDERSON, M.D.† DETROIT, MICHIGAN

The history of women in medicine begins in the centuries before Christ. Many attained recognition and even fame, contributing to both science and literature. In the early Christian period (fourth annd fifth centuries) many converts left their homes to devote their lives to medical science. Fabiola, a native of Rome, was the founder of the first important hospital of that city. At her time a hospital was unheard of, and so the work done by this early Christian woman is of inestimable value. Her work in establishing a hospital did more for suffering humanity than any person of her day ever dreamed

of. Saint Jerome said of her, "If I had a hundred tongues, I should not be able to enumerate all the maladies to which Fabiola gave most prodigal care and tenderness."

Medieval women physicians date from the time of Romulus Augustus in 476 to the fall of Constantinople in 1453. During this period, "The Dark Ages," the practice of medicine was in the hands of monks and nuns. The monasteries and nunneries became the headquarters for those wounded in battle, and for the sick; so in fact these places were medieval hospitals. Mozans, in his Women in Science, states that the healing art was considered as pertaining to woman's calling, and it became a part of the curriculum in convent schools; no girl's education was considered complete unless she had an elementary knowledge of medicine and of that part of surgery which deals with the treatment of wounds. There are numerous references in history to women who played an important rôle in medicine and surgery during the middle ages. The

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very frequent introduction of women physicians into the poems and romances of this time is an interesting fact. Saint Hildegarde in 1179, was, according to Mlle. Lipinska, the most important medical writer of her time. The Benedictine nuns had exactly the same opportunities as the monks. Hildegarde wrote books on Materia Medica pathology, physiology, therapeutics and good practitioners. She wrote "Liber Simplicis Medicinæ," which was edited at the beginning of the eighteenth century by Dr. Schott under the title of "Physica S. Hildegardis." Virchow called it an "early materia medica" curiously complete considering the age in which it belonged.

Salerno became the great medical school of that time. It had requirements as rigid as the best medical schools of to-day, with a three year pre-medical course of philosophy and literature, a five year course in medicine and a one year course with a doctor. It was the benefactor of all scholarships and culture regardless of sex. Thus Salerno was the first university to open its doors to women and the first to grant degrees to There was a carefully organized department of women's diseases, which was entirely under the care of women profes-Trotula, the head of this department, was one of the most famous graduates from There were numerous other women graduates from the medical school of Salerno, many of whom published works and received great reputation from them. One woman described a perineorrhaphy.

In England during the reign of King Edgar, "959-975," women were entitled by law to practice medicine. But in 1421 Henry V had Edgar's law repealed and women were not allowed to enter the universities. Little more was heard of women in this particular field until centuries later. Women were midwives, but that was all.

Women as physicians seem to have disappeared along about the sixteenth century, not to reappear until the early part of the nineteenth century.

Now after thousands of years, our pioneer sister of Egypt is memorialized by our own American Medical Association in *Hygeia*.

Modern medicine goes back less than two centuries to the beginning of organization and standardization.

Elizabeth Blackwell in 1849 stands alone, the first woman graduate of modern times,

and from an American college. Since then there has been a steady increase in the number of women physicians until in the United States alone we now have approximately seven thousand.

In 1850 in Philadelphia the first woman's school was chartered, graduating its first class in 1852. It is still in existence, the last of eight, the others being discontinued as co-education became popular. Although Geneva granted the first degree in 1849, it was not until 1870 that the second American institution, the University of Michigan, became co-educational; and not until 1879, when the Pennsylvania Hospital at Philadelphia opened its doors to the Women's Medical College, were any clinical facilities available. We owe much to this fine old school maintaining its Class A standard and to its dean, Martha Tracy, a physician of rare ability and womanliness.

Dr. Ann Preston was the first graduate, and was afterwards made dean of the College, which position she held until her death in 1872.

The United States was the first to sponsor co-education and was followed through the years by all the European countries, until 1900, when Germany reluctantly completed the list and now accepts a medical woman member of the Reichstadt.

In 1866 France opened her professional doors to women, thereby admitting the University of Paris to co-education, but interns were not appointed till twenty years later. In France medical women were placed in the National War Service and twenty-nine Croix de Guerre were received by medical

In the Scandinavian countries, including Finland, we find absolute equality of opportunity since the early seventies. Russia, Greece, Holland, Belgium, Mexico, and Austria as late as 1897, finally adopted coeducation.

Italy 1876, France 1867, Switzerland 1864, England 1877, and even Scotland in 1866. These five with America, pioneers, have justified their faith by accepting women at home and abroad. Spain appointed her first municipal physician in 1930.

British women, unlike Americans, are closely associated in their work and have established many large and well equipped hospitals entirely staffed by their own sex; notably the Marie Curie Radium Research

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hospital and two fine hospitals in London for women and children. Drs. Chadburn and Martindale are among the Nationally acknowledged surgeons, Christine Murrell, serves in the British House of Delegates. Lady Barrett headed the Obstetric section of the British society in 1926. Elsie Ingles organized the Scottish woman's hospitals. English women seldom use the term doctor. Toward the end of the war a thousand-bed hospital was established in London by the Government and staffed entirely by women. In both England and Canada a woman heads the Maternity and Child Welfare Departments.

American women, widely separated territorially, have associated themselves more generally with their local medical units.

It is interesting to note that Mary Putname Jacobi was the first of her sex to become a member of a County Medical Sara H. Stevenson, in 1876, achieved the honor of membership in the A. M. A. and Martha Welptom, of California, fifty years later sits in the House of Delegates. Dr. Florence Johnston, of Iowa, served several years as associate editor of the A. M. A. A woman is president of the Association of Anesthetists in the United States and Canada. There are fifty-eight Fellows of the American College of Surgeons, two of them Canadians; twenty-five Fellows of the American College of Physicians with five Associate, and thirty in the College of Ophthalmology.

In 1917 there were sixteen co-educational schools in the United States with mixed faculties; to-day there are sixty-two coeducational, four for men exclusively and one for women exclusively. The nine Canadian schools admit both sexes and six provide internships. Dr. Bertha Van Hoosen, in her survey for medical women as interns, stated in the nineties there were only a few hospitals where it was possible for a woman intern to get an appointment. The admittance of women to hospital internships has been a slow but a steady gain, and in 1929, in six hundred and twenty-seven A. M. A. approved hospitals with five thousand four hundred and twenty-two internships, one hundred and eighty-two were provided for women. Seven hospitals had internships for women only. Of the two hundred and ninety-seven hospitals approved for residences in specialties, fiftytwo provided internships for them.

Dr. Blanche M. Haines, Director of the Division of Maternity and Infancy in the Department of Labor, reports sixteen states with women physicians as directors. In 1893 there were a hundred and thirty-three women on civilian hospital staffs—they are now generally accepted everywhere on the same basis as men.

The opportunities for women to do research in medicine are of special interest. The answers to a questionnaire sent out by the Women's Bureau of the United States Department of Labor in 1926 shows that 7.5 per cent are thus engaged—3.2 per cent full time, 4.3 per cent part time. It is fair to conclude that among the 7,000 women physicians practicing in the United States, there are approximately 500 women physicians doing research work.

A few of the medical women, who have made special contributions to the public welfare:

Clara Swain, a graduate of the Woman's Medical College in 1869, was the first woman medical missionary in the world.

Dr. Anna Howard Shaw made her great contribution to human welfare, not as a practicing physician (although she held the medical degree) but as a publicist, and laid the firm foundation for women's suffrage.

Dr. Josephine Baker developed in the city of New York a public health organization and technic for maternal and infant welfare and for the school child, which has become a model for the world.

Dr. Alice Hamilton has traced to their ultimate origins industrial poisons and holds to-day a professorship at Harvard Medical School.

Madam Curie adds lustre to the title of doctor of medicine, which she holds by her researches in the field of radio-active material. Dr. Zavadsky is an associate of Madam Curie and a noted biologist.

The Medical Woman's National Association, a member agency of the National Council of Women, is a group organized in 1915 to encourage social and co-operative relations within and without the profession, and to forward such constructive movements as may properly be indorsed by the medical profession.

Dr. Esther Lovejoy, of Oregon, was its first president. Dr. Olga Stasny is now

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president of the Association. Dr. L. Rosa H. Gnatt, president-elect.

Dr. Esther Lovejoy is chairman of the American Women's Hospitals. A committee of the Medical Woman's National Association was organized primarily for war service, but in continuous operation for the past twelve years staffing and operating a total of seventy-two hospitals, one of them with a two thousand, six hundred bed capacity for trachoma sufferers at Alexandropol, in connection with the Armenian Orphanage; three hundred and twenty-seven clinics, quarantine stations, camps for pestilential diseases, health and child welfare centers.

Over one thousand women physicians have been registered for service.

Practically all of the Near East Medical Relief Work has been done by the American Women's Hospitals.

Dr. Florence Sabin, member of the Rockefeller Institute for medical research and one of the greatest living scientists, received the annual award of \$5,000.00 for the year of 1928 for her splendid contribution to medical science.

Some women physicians holding outstanding positions:

Dr. S. Josephine Baker, Stamford, Conn., organized first Child Health Division, New York City Department of Health.

Dr. Mable È. Gardner, Cincinnati, Ohio, woman physician and surgeon of Ohio. On staff at the University of Cincinnati Medical College.

Dr. Mary O'Malley, Washington, D. C., head of the Woman's Division, St. Elizabeth's Hospital, Washington, D. C.

Dr. Ellen C. Potter, Trenton, N. J., director, Department Institutions and Agencies, State of New Jersey.

Dr. Daisy M. O. Robinson, Albany, N. Y., lecturer, New York State Department of Health; Assistant Surgeon, United States Public Health Service.

Dr. Leda J. Stacy, Rochester, Minn., Assistant Professor of Medicine, Mayo Clinic.

Dr. Bertha Van Hoosen, Chicago, Ill., head of Obstetrical Department, Loyola University Medical School.

Dr. Rachelle Yarros, Chicago, Ill., head Department Social Hygiene, University of Illinois.

And so I might continue with the roster of medical women of distinction, who made

their outstanding contribution to human welfare.

Some pioneer medical women:

Dr. Harriet Clisby, who recently celebrated her one hundredth birthday. She is the oldest living woman doctor in the world. Dr. Clisby was inspired by our own Dr. Elizabeth Blackwell to study medicine. She graduated in New York in 1865.

Dr. Julia McNutt, of Albany, N. Y., died recently at her home. She graduated at Bellevue Medical College in 1883. Dr. McNutt was the founder of the Margaret Fahnestock School for the training of young women in the care of infants.

Dr. Dora Ann Sweezey McGregor graduated from the Pennsylvania Woman's College in 1864 and died in Pennsylvania nearly 91 years of age; at the time of her death she was probably our oldest living link with the past history of women in medicine.

Dr. Mae H. Cardwell was the first woman on the staff of the Portland Hospital. Dr. Cardwell was the first to advocate smooth shaven face for the surgeon and the first to wear a cap in the operating room. She held many positions of honor and trust in the medical profession.

Dr. Hanna Longshore and her sisters were pioneer medical women also worthy of mention, and there were many others who helped pave the way for medical women of to-day.

SUMMARY OF MICHIGAN WOMEN PHYSICIANS

There are 237 medical women in Michigan; approximately 80 per cent in active practice. A large percentage belong to their County Medical Society.

The Blackwell Medical Society of Detroit is a group of medical women composed of physicians and surgeons organized to bring medical women into association with each other for their mutual advantage, and to encourage social and co-operative relations with the medical profession.

To be eligible for membership in the Blackwell Medical Society of Detroit, a doctor has to be a member of the Wayne County Medical Society. There are forty members in the society.

The University of Michigan Medical School became co-educational in 1870. It was the second medical school in the United States to admit women.

At that time the medical curriculum was of two years' length with a prerequisite of

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each student having to spend one year with a medical practitioner before entrance to the medical school. About 538 women have graduated from the Michigan University Department of Medicine; and 107 from the Homeopathic Department.

The first woman graduate in 1871 was Amanda Sanford, who later became Mrs. Hicky. She died at Auburn, N. Y., October 17, 1894.

In 1872 there were seven women graduates, among them Dr. Helen Frances Warner, of Detroit.

In 1873 there were twelve graduates, Dr. S. Gertrude Banks, also of Detroit, being one of the class.

In 1930 there were six women graduates. Dr. Jeanne Solis, of Ann Arbor, Mich., who has been for sixteen years on the medical faculty of the University of Michigan in the Neurology Department, in speaking of "Opportunities for Medical Women," at the University of Michigan, said, "Women are received in the Medical Department on the same conditions as men, and have received the same instruction."

At the present time, internships are open to the women, and we have now on the medical faculty women in the following capacities: an associate professor in anatomy, an instructor in anatomy, an assistant professor in materia medica, an instructor in pediatrics, and an acting instructor in surgery.

Dr. Leda J. Stacy, of the Gynecology Department of the Mayo Clinic, Rochester, Minn., who spoke on opportunities for women at the Mayo Clinic, said there have been women on the staff of the Mayo Foundation since the first group was formed. Dr. Booker Grainger was the first woman with this nucleus, and was the oculist of the Mayo Clinic for many years.

Since the establishment of the Mayo Foundation of the University of Minnesota in 1915, there are thirty-three women Fellows and four of these have remained as members of the staff. The Foundation provides for a three year post-graduate study for graduates of a Grade A school, who have completed a year's internship in a recognized hospital.

Many medical women from Michigan have taken post-graduate work at the Mayo Foundation.

The Detroit College of Medicine and Surgery is the only other medical college,

with the exception of the Medical Department of the University of Michigan, which admits women in Michigan. The Detroit College of Medicine and Surgery became co-educational in 1917; since that time eleven women have been graduated.

At accredited A. M. A. hospitals in Michigan internships at the present time are open to women graduates from Class A colleges.

The greatest change in medicine for women in Michigan, as well as other states, is the greater opportunities they have in various lines.

Medical women in Michigan are serving as staff members in most of the Class A hospitals. There are twelve medical women on the staff of the Woman's Hospital, Detroit. Women are serving in municipal departments of health, of welfare and of labor and anesthetics. Dr. Myra Babcock, of Detroit, is a medical woman of Michigan who is outstanding in this field. Women are serving in public and private institutions for the mentally ill and feebleminded. Many are connected in teaching and executive capacities in the public school system, as medical examiners. Many are employed in commercial and industrial plants and social welfare organizations.

The first woman to practice medicine in Michigan in 1856, was Dr. Osborn, mother of Governor Chase Osborn.

Dr. Florence Huston was the first woman physician appointed on the staff of the Woman's Hospital, Detroit. She died in 1917.

Dr. Ann O'Dell, F.A.C.S., who specialized in eye, ear, nose and throat, was on the staff of Grace Hospital and the Woman's Hospital, Detroit. She died in 1924.

Dr. Florence Chadwick, A.C.P., a medical woman of ability, was on the staff of Harper Hospital and the Woman's Hospital. She died in 1929.

Dr. Bertha VanHoosen, one of the most noted women surgeons of the United States at the present time, took her M.D. degree in 1888 at the University of Michigan, and in 1912 received an honorary Master's degree for her achievements in surgery. Her research work and contributions to medicine are well known facts. One of the most interesting things to Michigan women is the fact Dr. VanHoosen began her career by being resident physician at the Woman's Hospital, Detroit.

Dr. Mary Thompson Stevens of Detroit, who graduated from Michigan in 1888, has given her help and interest for many years to the advancement of women in medicine and in all walks of life.

With the present status of medical women in Michigan, their future is assured.

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THE PREVENTION AND TREATMENT OF WHOOPING-COUGH

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There is no disease that takes so great a toll of infant life as whooping-cough. In the United States registration area of 1920 there was, in 1928, a total of 5,281 deaths from this disease, and of these 3,000 were in children under one year of age. In 1927, in a total of 6,254 deaths, 3,761 occurred under one year. The death rate of no other disease nearly approaches that of whooping-cough in this age group. In the past whooping-cough has taken an immense toll of life. In Prussia, in the five years from 1875 to 1880 almost 85,000 people died of it, and in England and Wales from 1858 to 1865 more than 120,000.

Table 11 shows the deaths under one year and under five years of age from whoopingdiphtheria, scarlet fever, measles, in Michigan during 1928 and 1929. One sees that whooping-cough far outruns the others in the first year, and stands at or near the top under five years.

Table 2² shows the deaths from the same diseases per 100,000 population in the registration states of 1900, from 1900 to 1928. Although deaths from whooping-cough have noticeably lessened during this period of twenty-eight years, yet they do not show so great a reduction as those from scarlet fever or diphtheria. In spite of increased knowledge of the cause, prevention, and treatment of infectious diseases, whoopingcough remains the great scourge of infancy and an important cause of severe illness and of death throughout childhood.

DIAGNOSIS

The diagnosis of whooping-cough in the early stage is difficult and often is not made until the paroxysmal stage is reached. Coughs and colds are such common things that the beginning of anything serious is seldom associated with them. Parents are not readily aroused to anxiety and are reluctant to call a physician unless more alarming symptoms present themselves. Nor is there nearly the anxiety over the prospect of whooping-cough that there is over the prospect of diphtheria or scarlet fever.

Among parents generally the seriousness of whooping-cough and its high mortality are not appreciated. The disease is thought of as something every child must have and must cough his way through. Indeed, a physician may not be called. A realization, on the part of parents, of the seriousness of this disease and the necessity for early diagnosis is a main requirement for reducing the havoc wrought by it.

In the early stages whooping-cough must be differentiated from other infections of the respiratory tract. Suspicion of the true nature of the malady is heightened if there is a history of exposure to a person known to have whooping-cough. A cough which persists for more than two weeks and which does not respond to sedative medicines should be thought of as whooping-cough until proved to be something else. Especially is this true of summer coughs. The name is a misnomer for some patients do not whoop, and in some the disease is so benign as hardly to raise the question of its being whooping-cough. Too much emphasis on the paroxysmal type of cough may lead one astray. In this connection should be mentioned paroxysmal sneezing as an equivalent of paroxysmal cough as reported by Reichle.³ On the other hand paroxysmal cough occurs in other conditions.

The greatest help in diagnosis which is generally available is the demonstration of a lymphocytosis. During the early stage of

[†]For professional note see Journal M.S.M.S., October, 1929.

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TABLE 1
Deaths in Michigan

Disease	19	28	1929			
	Under one year	Under five years	Under one year	Under five years		
Whooping-cough	130	212	158	250		
Diphtheria	18	175	21	211		
Scarlet Fever	6	90	12	72		
Measles	83	235	30	111		

TABLE 2

Deaths per 100,000 estimated population in Registration States of 1900

Disease	1900	1910	1911	1920	1921	1927	1928
Whooping-cough Diphtheria Scarlet Fever	12.2 40.4 9.6	10.7 22.5 12.2	10.6 18.5 8.9	11.9 17.4 5.2	8.3 17.9 6.4	4.8 8.5 2.7	5.2 7.5 2.2
Measles	13.4	12.6	9.3	10.2	4.3	1.9	5.5

the disease there is usually a well marked rise in the total leukocyte count, owing largely to an increase in small lymphocytes. In average cases there may be a count of 20,000 to 40,000 with 60 to 80 per cent of lymphocytes. An absence of this response, however, should not be taken to mean that whooping-cough is not present, for the examination may have been made before the rise began, and in mild cases the count may be only slightly above normal.

The isolation of the bacillus pertussis from the respiratory passages would, of course, establish the diagnosis. This procedure has not come into widespread use in this country. A method for showing the presence of the organism was introduced in 1916 by Chievitz and Meyer.4 It has been used for some time by the Copenhagen Health Department. The method is as follows: Plates of media suitable for the growth of the bacillus pertussis are prepared. An uncovered plate is held three or four inches from the patient's mouth when he is expulsively coughing. If necessary, a cough may be elicited for this purpose. The plate is then incubated and is examined for colonies on the second day. Growth may not appear until the fifth or sixth day. A negative plate does not preclude a diagnosis of whooping-cough.

In the United States, Sauer and Hambrecht⁵ among others have recently reported on the use of the cough plate in private practice. They said, "An analysis of 200 cases seen in private practice shows that the plate was positive in all but one of the fifty-three patients in the catarrhal stage, in seventy of 107 in the paroxysmal stage (65 per cent) and in none of forty in the decline

period. These figures are in accord with those of the originators and of others who have reported on this method."

By this means a diagnosis may be made before the lymphocytosis appears. Availability of the method to practicing physicians would facilitate the recognition of whooping cough in its most infectious stage when measures to prevent its spread are most effective. Infants might be removed from the neighborhood of the infectious person in time to prevent their contracting the disease. While it is true that early diagnosis does not affect the course of whooping-cough, it does enable physicians and parents to become more quickly oriented on the problem and to plan for the many details of care which have much to do with the final outcome in a small child.

GENERAL CARE OF WHOOPING-COUGH

Whooping-cough is a disease that wins its victories by a process of attrition. It gradually wears down its victims until they are a ready prey to other ailments, especially the respiratory tract diseases that are so deadly to undernourished and poorly resistant infants. With this in mind the problem should be gone over thoroughly with the parents. They should be told what to expect, and plans should be laid for a prolonged campaign against the disease. Everything else in the home must come second to the care of the patient, or patients, as frequently whooping-cough goes through all the children in the family.

It should be the first consideration in the general care of a patient with whoopingcough to maintain his nutrition. For awhile little trouble may arise in feeding. But

there often comes a time when the child will not eat, or, if he does eat, vomits his food after a coughing spell. Children who lose much of their food should be refed. After a severe coughing spell there is usually a period of quiet during which the refed food may pass out of the stomach. It is often advantageous to thicken the feedings so that they will be less easily vomited. Thickened formulæ are used for infants and thick cereals and other foods for older children. If milk is not well retained it may be cooked into cereal. By concentrating foods in this way a smaller bulk is required and the chance of retention is greater. On the other hand it may be found that a liquid diet will more readily pass out of the stomach. The diet should contain the usual vitamines. Resistance is lessened from lack of these. Little babies, in particular, if deprived of cod liver oil, may rapidly develop rickets. Tetany may appear and is often, as Powers⁶ has pointed out, the basis for convulsions in whooping-cough. The problem of feeding becomes so difficult at times that the usual feeding rules may have to be abandoned and the child fed whatever he will take whenever he will take it.

Children usually do better when plenty of fresh air is available. If the weather is suitable they should be encouraged to play in the stimulating outdoor air. They should be well wrapped, and their feet should be warm. They should not stay out to the point where they become over-fatigued, chilled or wet. Windows should be kept open at night. Yet, one will find children who cough less and rest better in a moist, warm atmosphere. At times the cough may be so prostrating that rest in bed throughout the day is advisable.

The strain of coughing is lessened by supporting the patient during the paroxysms, standing behind him with an arm around his abdomen and a hand supporting his forehead. An abdominal binder or an elastic bandage wound around the abdomen gives support and comfort to a cough racked child.

During the day children should play in places where they can vomit or cough out mucus without fear of soiling the surroundings, and, if in the house, where they can quickly reach a bathroom or sink. At night newspapers may be spread on the floor so that the patient may lean over the bedside to cough or vomit without undergoing the

exertion of turning on a light or reaching for a basin. As much quiet as possible must be obtained. Violent activity, boisterous play or excessive laughter may precipitate the cough. Paroxysms are usually more severe at night than in the daytime and sometimes may be alarming. A low light helps the child to keep up his courage. When a paroxysm begins someone should immediately go to him. His misery is greatly intensified if he is left to suffer unattended.

DRUG THERAPY

The use of drugs in the treatment of whooping-cough is in no wise curative and is at best a palliative measure. Indeed, too great suppression of the cough is not advisable. There is a secretion of mucus into the bronchial tubes which must be got rid of. It is better to have mild paroxysms by means of which the lungs are freed of mucus at frequent intervals than infrequent violent ones during which the patient gasps for breath, turns blue, and finishes in an exhausted or collapsed condition.

Every physician has his own ideas of what drugs are of help in whooping-cough. Antipyrin is probably most widely used, and codeine, paregoric, the bromides, chloral, ephedrine, and belladonna in increasing doses, are of value. One drug sometimes helps when another does not. The main indications for checking the cough are to prevent hemorrhage, to enable the child to get more and regular sleep, and to diminish the frequency of vomiting. Ammonium chloride may be used to increase secretion and thin mucus. Atropine may be used to lessen secretion. One must beware lest the medicines upset the stomach and interfere with the ingestion of food. It is not well to use much medicine at first, for the time comes later when it will be more urgently needed. Medicated vapors, such as tincture of benzoin compound in steam, may be of more value than drugs taken internally. Nose drops of mild antiseptics or of shrinking solutions such as ephedrine may be used to clear the head in order to allow freer breathing. After a little experience intelligent parents may be relied upon to give whatever medicines are prescribed as the signs and symptoms warrant.

Among newer remedies, ether, introduced in France by Audrain in 1914, has proved to be of considerable value. It was at first given intramuscularly. This method is I.S.

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painful and may be followed by necrosis. Rectal administration overcomes these disadvantages. A suitable mixture is one containing one part of ether and seven parts of olive oil. One-half ounce to one ounce (two to four cubic centimeters of ether) or more according to age may be given every four hours. In five to ten minutes the odor of ether appears on the breath, and considerable relief is frequently obtained. A two to four day period of treatment is alternated with a similar period of rest. The effect is said to persist through the rest period. There are children who are not able to retain the mixture and others whom the treatment does not help.

In this and other forms of medication patients must be considered individually. The treatment which helps one may not help another. McLorinan⁷ has reported an interesting experiment from Australia in which no drug treatment was used for whooping-cough in a hospital for infectious diseases for a period of twelve months. The results were considered to be quite satisfactory.

VACCINE THERAPY

The value of vaccine is mooted. are those who think it of the utmost value. Bloom⁸ stated, "After thirteen years' observation and considering the fact that the author has followed many plans of treatment and different combinations of vaccines, this therapy in the management of whoopingcough is found to be the most efficacious in all respects. As a preventive, less than one per cent of those vaccinated have up to this time developed whooping-cough." Friedlander,9 in Abt's Pediatrics, says, "It is not to be understood that vaccine therapy cures all cases at once, but properly used it certainly shortens the paroxysmal stage, diminishes the severity and frequency of the paroxysms, and wards off complications."

Others feel that vaccine is of little value. Sauer and Hambrecht¹⁰ found that, "Three injections of potent vaccine did not prevent the disease in definitely exposed susceptible children. Vaccine therapy has had little if any influence in the course of the disease in 100 patients." Davison¹¹ summarized his review of the use of vaccine as follows: "In summing up the prolific and somewhat contradictory literature on this subject, it may be concluded that injections of Bordet-Gengou bacillus vaccines may have a slight though unreliable prophylactic effect, and

that therapeutic inoculations are of practically no value. Further experiments are necessary to raise this procedure from the limbo of nonspecific therapy."

There are others, however, who take less extreme views, and they feel that while vaccine has no great therapeutic value it has a decided prophylactic value. Hess12 concluded, "It would seem clear that none of the four vaccines, including the autogenous strain, was of value in curing or tempering the disease in the epidemic which existed in our institution." "However, the proportion of unvaccinated children who developed pertussis so greatly exceeded the number of those vaccinated who developed the disease that we conclude that the vaccine has protective value in a certain percentage of cases and that it should be employed in institutions and in families to prevent the spread of infection." Barenberg13 found that, "It would seem almost certain that pertussis vaccine given even in large dosage not only has no curative effects but does not tend to lessen the severity of the disease." "In both the former epidemic and this one, the percentage of vaccinated children who developed the disease was considerably less than those who were not vaccinated."

The study of the effect of whoopingcough vaccine is beset with many difficulties. The uncertainty of diagnosis in mild cases; the type of disease, whether severe or benign; the amount of vaccine used and whether it is fresh or preserved; the geographical location; the fact that some children vaccinated may not be susceptible to whooping-cough; and the difficulty in securing adequate controls must all be considered in evaluating results. A convincing study was one made by Madsen,14 the Danish authority on whooping-cough, in the Faroe Islands. In this remote place the disease appears periodically. In the epidemic of 1923 extensive prophylactic vaccination was practiced. The conditions were peculiarly suitable for making a test of whooping-cough vaccine. Madsen reported, "In the material from the epidemic we note 2,094 vaccinated patients with five deaths and 627 nonvaccinated with 18 deaths mortality among the nonvaccinated is twelve times as great as among the vaccinated. Vaccination is, as a rule, most effective when given about a week before the disease breaks out." "The doctor at Klaksvig reports no deaths among 457 vaccinated patients. Whooping-cough was mild, especially in the case of those patients showing a strong local reaction from the vaccine. There was an equally large control material from Klaksvig, namely, 450 non-vaccinated patients among whom were 11 deaths."

Madsen and others have noted that antibody formation, as shown by complement fixation, reaches a maximum about eight days after the last injection of vaccine. After this time the line of the curve begins to fall. In the case of patients who already have whooping-cough when vaccination is started, only a small increase in the quantity of antibodies is observed in response to the injection of vaccine. These serological observations suggest that vaccine has a prophylactic value but that it is of little use in therapeusis.

The nature of the vaccine is thought by some investigators to be of importance. Should only freshly made vaccine be used? Should a preservative be added? Is vaccine more or less effective when other organisms Are autogenous vaccines are included? better than stock vaccines? Opinions on these points vary. Southby15 observed better results with straight pertussis vaccine than with a mixture of pertussis, pneumococcus, and micrococcus catarrhalis. Most of the reported work has been done with straight pertussis vaccine. It does not seem likely that the protective value of the vaccine would be enhanced by adding other or-The other questions need not concern those in practice, as only preserved vaccine, which is not fresh in the sense of being only a few days old, is generally available. Again, some think that better results are obtained by using a dosage sufficiently large to produce a local reaction. Commercial vaccines usually contain 4,000 million organisms per cubic centimeter, and, in the dosage advised, seldom cause a reaction. It is probable that the best results are obtained by larger doses and a greater number of them.

It is difficult for a physician to say whether or not vaccine prevents or helps the disease in a given case. It is undoubtedly the general feeling that it should be used for it does no harm and it may do good. One feels that anything which may give aid in treating this terrible disease is acceptable. Its use has a value, too, not intrinsic in the vaccine itself. During the period of administration the parents are kept in contact with

the doctor, who may use this time to teach them how to live with whooping-cough until it goes away.

ROENTGEN-RAY THERAPY

The roentgen ray has recently been used in the treatment of whooping-cough. Bowditch, Leonard, and Smith¹⁶ published work which showed the beneficial effect of this treatment. Then followed work by Faber and Struble,¹⁷ who concluded that the roentgen ray had no value in the treatment of whooping-cough. Even if there were no question of its value, this form of therapy would be difficult to apply, for patients would have to be taken from their homes to the doctor's office in violation of quarantine rules, and other patients might be unnecessarily exposed to the contagion.

SERUM THERAPY

The use of serum in whooping-cough has interesting possibilities. The work published along this line comes from European clinics. Bordet and Gengou¹⁴ produced a whooping-cough serum in the usual way by immunizing animals with bacilli, but the results obtained from its use were far from satisfactory.

Accounts of the successful use of human serum and whole blood are found in the French literature. Méry and Girard¹⁸ reported the use of whole citrated blood for a child who contracted whooping-cough at two months of age. The attack was severe and in two months time the child was in grave condition. At this point two injections of the mother's blood, five cubic centimeters and ten cubic centimeters two days apart, were given. Marked improvement was seen after the first injection and the baby went on to rapid recovery. Debré¹⁰ studied the use of whooping-cough convalescent serum. Children who were undoubtedly exposed to others with the disease were given two to three cubic centimeters of pooled serum taken during the fourth week of illness. It had been found that complement fixation reached its highest point at this time. Of forty infants, thirtyone were entirely protected; six had a mild infection; and three had the usual attack. Debré concluded from an analysis of his cases that if serum is injected before the end of the incubation period the onset of illness is prevented; if injected at the end of the incubation period the disease appears in M.S.

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he in mild form; if given during the invasion period the disease is not affected.

The intramuscular injection of 10 to 20 cubic centimeters of convalescent whole blood without citrate was not found by Lesné and Pétot20 to have any effect in reducing the number and intensity of paroxysms but had a marked beneficial effect in whooping-cough broncho-pneumonia. The treatments were given at a hospital for infectious diseases, over a period of several months. Gillot21 used subcutaneous injections of whole blood for the prophylaxis of whooping-cough. In a series of children from one month to six years of age injections were made with the blood of persons who had had whooping-cough a long time before. Four children injected before the catarrhal stage began were completely protected; two injected during the catarrhal stage suffered from a benign form of the disease. In another series the blood was drawn from fathers and mothers without whooping-cough history. Six children injected before the catarrhal stage escaped the disease; five injected during the catarrhal stage had the disease in mild form. dose of blood varied from two to five cubic centimeters, the larger doses being used for the older children.

If the beneficial effects observed by the French clinicians are confirmed, the use of convalescent serum and of whole blood, and even of blood from persons having had whooping-cough some time before, will give us a powerful weapon in the prophylaxis and treatment of this disease.

CONCLUSION

In summarizing present knowledge of the prevention and treatment of whoopingcough certain outstanding points may be emphasized. Prophylaxis is best obtained by early diagnosis and the immediate removal of the patients from susceptible contacts.

Pertussis vaccine may protect those exposed if they have not reached the catarrhal stage. Convalescent human serum or whole blood gives promise of being a helpful agent. Relief from the disease and its ravages lies more in prevention than in cure. Much can be done to help a child ill with whooping-cough but no specific curative agent has yet been developed. The ravages of the disease on child life makes it a problem which demands our careful attention.

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TRAUMA AND DEMENTIA PARALYTICA JOSEPH V. KLAUDER, Philadelphia, and HARRY C. SOLOMON, Boston (Journal A. M. A., Jan. 3, 1931), discuss the etiology of dementia paralytica, the onset and evolution of early dementia paralytica, trauma in determining the localization of syphilitic lesions in human syphilis, trauma in determining the localization of syphilitic lesions experimentally in rabbit syphilis, statistical studies regarding the relation of trauma to dementia paralytica, the rôle of trauma in causation of dementia paralytica, the limits of the

time elapsing between the trauma and the onset of dementia paralytica which would logically incriminate trauma as playing an etiologic rôle, and the medicolegal status of the relation of trauma to dementia paralytica. The authors urge that each case must be considered on its own merits and the physician must try to evaluate (1) the effect of the trauma on the intracranial contents, (2) the meaning of symptoms during the intercalary period, and (3) the probable modification of the patient's usefulness and longevity.

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CHRONIC NEPHRITIS IN CHILDREN*

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While acute nephritis of the hemorrhagic type is of common incidence in children, chronic nephritis is comparatively rare early in life. Why adults have chronic nephritis much more frequently is intelligible when one considers that adults with this condition are usually individuals suffering with generalized vascular disease inherent to advancing years, the renal involvement being but a secondary manifestation.

In discussing any classification of chronic nephritis one must always be mindful of the age-old controversies between the clinician, pathologist, and physiologist. No one classifi-

cation has ever been evolved which would at once satisfy all three. For one can never be certain in his prediction of the anatomical picture from the clinical findings, and vice versa. For practical purposes, however, a simple clinical classification, such as that proposed by Christian, seems satisfactory. He divides chronic nephritis into three main types:

1. Chronic nephritis with edema.

2. Chronic nephritis without edema.

3. Vascular hypertension progressing into nephritis.

While this classification was designed primarily for adults, it is, in general, applicable to children. For the sake of convenience, I shall discuss, in their reversed order, these various types as they occur in children

Vascular Hypertension with Secondary Renal Involvement.—As already indicated, vascular disease with secondary renal changes is rare in children. Amberg,² studying hypertension in children at the Mayo Clinic for a period of eight years, observed only 25 cases, 17 of which gave some evidence of renal impairment. This series included three cases of peripheral arteriosclerosis and only one case corresponded to the essential hypertension of adults.

In connection with hypertension in children, it is interesting to note that a polycystic kidney can produce extreme hypertension without any evidence of renal impairment. Such a case was reported by Cowie.³ The patient was a boy of 8 years with a polycystic kidney. He had evidence of

hypertension over a long period of time with frequent headaches, vomiting, and neuro-retinitis. His blood pressure was 220/110 to 230/180. No evidence of renal impairment could be found, however, in the usual blood, urinary, and functional examinations. Removal of the polycystic kidney resulted in a remarkable drop of the blood pressure to practically normal.

Chromic Nephritis without Edema.—In anatomical terminology, the pathological equivalent for this clinical designation is chronic interstitial nephritis. Most commonly, it represents the end stage of a primary chronic nephritis, although the picture is often indistinguishable from the renal involvement secondary to vascular disease. As in adults, the outstanding features of this type are: Absence of edema, hypertension, cardiac hypertrophy, a tendency to uremia, and evidence of marked renal impairment. This picture is the result of a gradual development, the patients usually dying in uremia. The hypertension in these cases may be surprisingly high. Among the nephritic children observed at the University Clinic, one six year old child with interstitial nephritis had a blood pressure of 240/175; another child of eleven years had a blood pressure of 270/100.

There is another type of interstitial nephritis which is considered a clinical-pathological entity, the characteristic features of which are the association of a chronic interstitial nephritis of obscure origin with retardation of growth, delay in sex development, and the presence of rickets. It is known both under the term of renal dwarfism and renal rickets. Although the combination of nephritis, dwarfism, and bony deformities had been recognized for about fifty years, it was not until comparatively recently⁴ that the real significance of

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the relationship of renal disease and rickets was stressed. Recent investigations by Schoenthal and Burpee⁵ suggest that the rickets is probably the result of a longstanding acidosis. A case of renal rickets studied recently in this Clinic has led us to the same impression. The rickets usually is of the low-calcium type. Usually there is a phosphate retention in the blood; this increase in the phosphates being an expression of severe renal damage. The development of the nephritis is often obscure. In some cases, the nephritis seems to be of congenital origin. Not only interstitial nephritis, but other renal conditions, such as polycystic kidney, may be associated with This disease is rather uncommon. Mitchell⁶ in a recent review of the subject found a total of seventy-six cases. It is interesting to point out that ordinary antirachitic therapy is usually of no benefit.

Chronic Nephritis with Edema. — This type of nephritis has often been described by the general term, chronic parenchymatous nephritis. More specifically, depending upon which element in the kidney unit is predominatingly involved, the anatomical terms chronic glomerulonephritis or chronic tubular nephritis have been used. As is true of the large majority of the cases, renal damage involves both the glomerular and tubular elements so that the condition is most commonly a chronic glomerulo-tubular nephritis. The terms genuine nephrosis (Volhard and Fahr), chronic nephrosis (Epstein), and lipoid nephrosis (Munk) have all been introduced to designate that symptom-complex associated with the degenerative renal lesion limited primarily to the tubular elements.

In chronic nephritis with edema several important clinical features may be considered: Edema, albuminuria, hypertension, hematuria, changes in the blood chemistry and basal metabolism.

Edema.—The edema in these cases is most commonly not a constant affair, but tends to be recurrent, reappearing with acute exacerbations in the course of the disease, especially coincident with the development of acute infections of the upper respiratory passages, ears, and accessory sinuses. If the child does not die during an edematous stage, the edema will disappear either as the result of treatment or of natural recovery. The longest time we have seen edema persist continuously was in a child in

whom edema persisted in varying degrees for about a year. Often it is difficult to ascertain how much of the edema is of renal origin and how much of it is cardiac. An interesting relationship is that between renal edema and the concentration of the blood proteins. Normally the total serum proteins vary from approximately 6.5 to 8.0 per cent. A lowered total serum protein is almost invariably found when edema is present. Usually, it will be below 5 per cent.7* However, the total serum protein may be considerably below 5 per cent in edema-free stages of the disease. In an edema-free stage in one of our cases, the total serum protein was as low as 3.8 per cent.22 The diminution in the serum proteins means a proportional diminution in the colloidal osmotic pressure, with the resultant tendency to deposition of fluid in the tissues, a physiological fact stressed many years ago by Starling.8

Albuminuria.—The coincidence of edema and a lowered blood protein in these cases of nephritis is thought to be linked up with an excessive loss of protein through the kidneys. The total blood protein consists chiefly of albumin and globulin; normally there is twice as much albumin as globulin. A marked albuminuria is one of the characteristic features of chronic nephritis of the nephrosis This loss may amount to as much as approximately 20 gm. daily in a small child. As much as 50 gm. loss of albumin daily has been reported in adults. Since the total blood proteins is a little more than four times this much, according to Epstein, such a loss must be a serious drain, and analysis of the serum protein gives evidence The lowered serum protein is found to be decreased at the expense of the albumin fraction. The globulin concentration is either within normal limits or may be slightly increased. It seems that the globulin molecule is too large to pass through the glomerular membrane.22 Thus, we find a reversal of the ratio of albumin to globulin.

Hypertension.—Hypertension in chronic nephritis with edema is found most frequently during the acute stages or flare-ups in the course of the disease. As the process becomes subacute or chronic the blood pressure may be only slightly elevated or with-

^{*}Since the diminution of serum protein is primarily due to the decrease in the albumin fraction, it is more accurate to relate edema tendency to the fall in serum albumin. According to Moore and Van Slyke (J. Clin. Invest., 8:337, 1930), edema tends to appear when the serum albumin, normally averaging 4.3 per cent, falls below 2.3 to 2.7 per cent.

in normal limits. As this disease progresses into an interstitial or terminal phase of nephritis the blood pressure begins to mount.

Hematuria.—Hematuria denotes glomerular damage and, in the course of chronic nephritis, is evidence of an active process. Usually hematuria occurs early in the disease or in acute exacerbations. It is remarkable how long a gross hematuria may persist in some cases. A nephritic child under our observation had a marked gross hematuria for about 7 months, as the result of which he developed a rather severe secondary anemia necessitating eight transfusions over this period of time. At present, about a year since the onset of an acute hemorrhagic nephritis, he still shows a microscopic hematuria, along with many of the features usually described as criteria of

nephrosis.

Cholesterolemia.—As with the blood proteins, the cholesterol concentration seems also to have a definite relationship to the occurrence of edema, but in a converse man-Whereas, in these cases, the serum proteins are diminished, the cholesterol is invariably increased in presence of edema. In fact, not only is the cholesterol content elevated in chronic nephritis, with edema, but an increase, though to a much smaller degree, has been noted consistently in acute nephritis with edema.9 Thus, it would seem that these changes, both in the blood protein and cholesterol, are concomitants of renal It is probably incorrect to relate renal edema and these changes as cause and effect, since a considerably lowered serum protein or a high cholesterolemia are both frequently found in absence of edema. A high cholesterol finding may be present long after the edema has disappeared. In a child with a nephrosis picture, we found²² a cholesterol of 570 mg. almost two years after the disappearance of his edema. In another child who had passed into an interstitial phase of nephritis we found a cholesterol of 610 mg. It is interesting to note that a gradual or sudden decrease from a previously high to a normal or subnormal cholesterol may be considered as a forerunner of uremia.9 Of the physiology of cholesterol, we know comparatively little. We find cholesterol increased not only in nephritis, but also in severe diabetes, pregnancy, and obstructive jaundice. It is often decreased in many acute infections, anemia and malignant disease. The idea that in nephritis the

blood cholesterol content is elevated due to an inability to burn fat, as in diabetes, has been disproved in Van Slyke's Clinic.10 where it was found that nephritics can utilize fat as do normal individuals. The doubly refracting lipoids found in the urine in these cases probably can be explained by the appearance in the urine of disintegrated renal cells in which cholesterol had been deposited. The finding of these lipoid bodies in the urine has been considered as pathognomonic of lipoid nephrosis, but it is now known that they may also be found in chronic and also in acute glomerulonephritis.11 It has also been shown that not all the doubly refracting bodies in the urine are of a fatty nature.

Blood Calcium and Phosphorus.—The changes in the blood calcium and phosphorus are also interesting. In certain phases of chronic nephritis one is apt to find a lowered serum calcium. This lowering of the calcium of the blood is not accompanied by the development of tetany, since in tetany the reduction of the serum calcium is due to a diminution of ionized calcium, whereas in chronic nephritis, the reduction is due to a decrease in the unionized or combined calcium.12 A reciprocal relationship appears to exist between the serum calcium, phosphorus, and total proteins.18 The concentration of serum calcium varies directly with the concentration of protein inversely to the concentration of phosphorus. mounting phosphate retention in the blood is indicative of an increasing renal insufficiency.

Basal Metabolism.—A lowered basal metabolic rate has often been reported in chronic nephritis with edema, particularly of the nephrosis type. This finding has been taken as evidence in favor of the idea that nephrosis is primarily of extrarenal origin. However, it is probable that in most of these findings no due regard was paid to the fact that edema, by increasing surface area, will lower the determination if the weight of the edema is not discounted. It has been reported14 that the basal metabolic rate is unusually normal, if calculations are based upon the normal weight of the individual. In one case, which fulfilled practically all the criteria for nephrosis, we found for a long period, a persistently elevated basal metabolic rate. The highest determination in this child, allowing for edema, was + 30 per cent.22

Relationship of Nephrosis to Nephritis.—

The term nephrosis is employed to represent what is considered by many to be a disease entity quite apart from ordinary nephritis. It was first introduced by Müller to represent the degenerative process which was thought to be limited to the tubular elements of the kidney unit, in contradistinction to the usual inflammatory lesions of glomerulo-Clinically, the representative picnephritis. ture of nephrosis is characterized by massive edema with periods of remission, a persistent, usually marked albuminuria, a cholesterolemia, a lowered serum protein with a reversal of the albumin-globulin ratio, a lowered basal metabolic rate, and the detection of doubly refracting bodies in the urine. Hematuria, hypertension and retention of nitrogenous waste-products in the blood are all supposed to be characteristically absent.

It has been maintained that nephrosis is of extrarenal origin and that the kidney lesion is but a secondary phenomenon. There is growing belief, and considerable, strong evidence to support it, that so-called nephrosis is but a symptom-complex, a stage in the course of chronic nephritis. This evidence may be briefly summarized:

1. Cases have been observed in which the process has been seen to begin as an acute glomerulonephritis and gradually assume the picture of nephrosis.¹⁵

2. Cases of chronic nephritis, dying in uremia and revealing at autopsy glomerulonephritis, have presented during the clinical course of the disease a characteristic picture of nephrosis. The reason that so many cases are seen at autopsy with the degenerative lesions of nephrosis may be due to the fact that many of these cases die of intercurrent infection and, strangely, it is a pneumococcus peritonitis with which these patients die (approximately 50 per cent). Therefore, we can only conjecture in these cases what the final picture of the kidneys would have presented, had not intercurrent infection interposed.

3. The lowered serum protein and the cholesterolemia, singly or in combination, cannot be regarded as diagnostic criteria of nephrosis, since these changes are rather concomitants of renal edema, irrespective of the type of renal pathology.

4. The finding of doubly refracting bodies in the urine cannot be used as a pathognomonic sign of lipoid nephrosis, since they have been demonstrated in the urine of cases of glomerulonephritis.

5. The lowered basal metabolic rate reported in these cases would probably have been found to be within normal limits in a considerable number of instances, had allowance been made for the weight of the edema.

Recent special studies in microscopic renal pathology by Bell¹⁷ show that there is evidence of glomerular damage in these cases of nephrosis. The persistent, excessive loss of albumin through the kidneys is dependent on a preceding glomerular damage which leaves usually a permanent functional change in the glomerular capillary membrane.¹⁸ The great loss of albumin seen in many of these cases is, as Christian¹⁹ states, much greater than that which might come from degenerating tubules. In realty then, the albuminuria with its resultant depletion of blood protein and the tendency to edema seen in nephrosis, points back to an earlier glomerular change rather than being primarily an expression of a tubular degeneration.

7. Experimentally,²⁰ the picture of nephrosis has been reproduced in dogs through the removal of blood proteins by bleeding and the replacement merely of the cellular elements, indicating, further, that drainage of the blood protein may be the underlying factor in nephrosis.

Protein Requirements in Nephritis.—It has long been the custom to restrict protein in the diet of nephritic patients without due regard to the type of nephritis. In the light of our present knowledge of the relationship of protein depletion from the body to the genesis of renal edema, it may be rightly questioned whether this is a wise procedure.21 A child with an excessive albuminuria and a lowered serum protein, but with a normal nonprotein nitrogen, should receive an adequate amount of protein in its diet to offset the ill effects of protein deprivation. In nitrogen balance experiments²² it is found that if these cases previously on a low protein diet are given adequate protein, a change from a negative to a marked positive balance will ensue without any increase in the nonprotein nitrogen of the blood, indicating that the organism by the avidity with which it stores protein under these conditions has actually been suffering from protein starvation. Furthermore, it must be remembered that the growing child requires considerably more protein than adults.

Obviously, there are circumstances in the course of nephritis in which a minimal amount of protein is indicated. A condition in which there is an appreciable elevation or mounting retention of the blood nonprotein nitrogen, calls for protein restriction.

Just how much protein a nephritic child should get in its diet will depend upon how much will be necessary to keep it in a positive balance. While, of course, nitrogen balance determination for the individual case is impracticable, nevertheless, one can be governed by the degree of albuminuria and the serum protein concentration. our nitrogen metabolism experiments,22 we have found that approximately 1.0 gram of protein per pound of body weight is a sufficiently safe margin. The ideal, then, that should be striven for in the question of how much protein to give these nephritic children, is neither a restriction of protein, nor necessarily a high protein content in the diet, but rather an adequate amount of protein, defined as that amount safely sufficient to maintain the child in a positive nitrogen balance.

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SUBARACHNOID HEMORRHAGE OCCURRING IN SYPHILIS*

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The diagnosis of subarachnoid hemorrhage is made more frequently today than it was before the beginning of the present century. This may be attributed to the fact that the lumbar puncture has become an effectual method for diagnosis and treatment. The condition may not be fatal if care is taken to determine the cause and to treat the disease in its early stages.

hemophilia, scurvy, meningitis, brain tumor, embolism, thrombosis, anthrax, coitus, straining at the stool, alcoholism, etc. Symonds¹ suggests the following as possible ways for blood to enter into the subarachnoid space: an effusion originating within the subdural space rupturing the arachnoid membrane; hemorrhage into the superficial parts of the nervous substance breaking through the pia

Hemorrhage into the subarachnoid space may be due to aneurysm, trauma, syphilis,

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mater; deeply situated cerebral hemorrhage entering the subarachnoid space by effusion; and hemorrhage from one of the vessels lying in the subarachnoid space. He found that in an analysis of 127 cases, 10 were due to syphilis. Sands² believes that neurosyphilis complicated by subarachnoid hemorrhage is a clinical entity and that it is probably caused by the rupture of diseased pial capillaries. The pathological process of the blood vessels in syphilis has been summarized by Turnbull³ as follows:

"When the smaller muscular and elastic arteries are the seat of syphilitic inflammation, endarteritis is usually a marked figure, the lumen becoming almost obliterated. It is clear that in such a condition aneurysmal dilatation is excluded. In some cases of intense inflammation with necrosis the adventitia and media become greatly weakened before the intima has greatly thickened; in such cases aneurysmal dilatation might occur, but in my experience such intense inflammation has led to rupture of false aneurysm and not to true aneurysm."

The symptoms of subarachnoid hemorrhage, as a rule, come on suddenly. The onset of the condition is usually manifested by a complaint of headache followed by drowsiness, stupor, or coma. Occasionally the cranial nerves are involved and there may be a partial or complete hemiplegia. There are usually signs of meningitis. The tendon reflexes frequently are diminished or absent; however, in some cases they may be increased. The diagnosis is often difficult to make, as the clinical findings are apt to be confusing and a history may not be obtainable.

The case reported is one of subarachnoid hemorrhage. It is of special interest first, because there was a history of treated syphilis; second, the onset of the disease followed copulation; third, there was difficulty in making a diagnosis; fourth, the patient evidently made a complete recovery.

B. M., a female, twenty-three years of age, upon admittance to the neurological service of the University Hospital complained of drowsiness and a severe frontal headache. She stated that for the past year she had had a Neisserian infection and that five months ago she had skin lesions and a positive blood test for syphilis. Subsequently, she received twelve intravenous and six intramuscular injections for syphilis. This treatment was completed two months before the present illness and until now the patient had no complaints. Two days before admission to the hospital she was unconscious for eight hours following intercourse. There was no history of trauma.

On examination she was drowsy and appeared to be in pain. The temperature was 98° F., pulse 102, and respirations 24. The pupils did not react to light, but did react in accommodation. The extraocular movements were normal and there was no nystagmus. There was marked photophobia. The ocular fundi showed a choked disc of four diopters in the right eye and two diopters in the left eye, with small hemorrhages in both retinæ. There was no paralysis of the face or tongue. The neck was rigid. The ears showed no evidence of recent infection. The biceps and triceps reflexes were present, equal and diminished. The knee and Achilles reflexes were present, equal, and markedly diminished. Plantar irritation caused flexion of the toes on both

sides. Kernig's sign was present. Vaginal examination showed a foul discharge. Gonococci were not found. X-ray studies of the skull showed old sclerotic mastoids. A lumbar puncture demonstrated a spinal fluid pressure of 290 millimeters of water. The spinal fluid was bloody and on centrifuging, the supernatant fluid was xanthochromatic. The fluid did not coagulate. There was a four plus globulin and a negative Kahn reaction. The colloidal gold curve was 3132210000. No organisms were found on direct examination and the cultures showed no growth. The urine had a two plus albumin, 30-40 white blood cells, many organisms, and no casts. The blood Kahn reaction was negative.

The patient received daily for the first three days spinal fluid drainages, the quantity withdrawn varying from thirty to sixty cubic centimeters. On the third day, the fluid was of a slightly yellow tinge, and as there appeared to be no more hemorrhage into the subarachnoid space, the treatment was discontinued. The only other medication the patient received was increasing doses of potassium iodide. During the next two weeks the papilledema gradually subsided to negligible swelling of the optic discs and the patient became asymptomatic and at discharge had no apparent residual from her subarachnoid hemorrhage.

DISCUSSION

The diseases considered in the differential diagnoses were meningitis, hemorrhage from a brain tumor, and subarachnoid The fact that the first condihemorrhage. tion was present was evident from both the clinical and laboratory examinations. However, it appeared to be aseptic meningitis as no organisms could be found in the spinal fluid, and the patient's temperature was normal. Hemorrhage from a brain tumor was possible especially because of the presence of choked disc, so it was difficult to discard this diagnosis. There was an increase in intracranial pressure which could result from any of the three conditions. that there was a history of syphilis, and that the condition was preceded by emotional strain, led to the probability that a weakened luetic blood vessel had ruptured into the subarachnoid space, which was manifested clinically by bloody spinal fluid. This probability was strengthened by the fact that there were no localizing signs and that the tendon reflexes were diminished.

CONCLUSIONS

The hemorrhage into the subarachnoid space, in this case, was probably the result of the pathological changes in the blood vessels brought about by syphilis. The predisposing factor causing the rupture of the blood vessel was undoubtedly due to an increase in pressure on the vascular system from the excitement.

The increased intracranial pressure was reduced and the blood in the subarachnoid space was removed by spinal drainage.

The anti-leutic therapy the patient obtained prior to her admission to the University Hospital is probably the reason why the positive history of syphilis did not agree with the negative serological tests.

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GALL BLADDER DISEASES, DIAGNOSIS AND INDICATIONS FOR OPERATION

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To the real student the interest in any branch of medicine lies, to a great extent, in the progress of knowledge in that branch. Interest wanes when such progress is not evi-No subject in medicine better demonstrates milestones of progress during the past decade than does the new knowledge of gall bladder disease diagnosis. Very material strides have been made, especially in the early diagnosis. My first medical textbook was Osler's "Practice of Medicine" written in 1904. A survey of the knowledge then compared with that of twenty-five years later shows marked advance, not only in the field of

diagnosis, but also in treatment, both by

direct and indirect attack.

The classification of disease, however, remains practically the same except for the addition of chronic cholecystitis, which we now know forms a large and important It might be well to visualize the classification made at that time. In view of our knowledge today it seems strange that chronic cholecystitis was not included in this group.

Osler at that time described:

Acute catarrh of the bile ducts (catar-

rhal jaundice).

- Chronic catarrhal angiocholitis. stated that this always accompanied obstruction to the common duct due to stones, cancer stricture, or external pres-
- Suppurative and ulcerative angiocholitis, —the most serious sequel of gall stones.
- d. Acute infectious cholecystitis-associated with or without gall stones. (Acute non-calculous cholecystitis he felt was a result of bacterial invasion-colon bacillus—typhoid bacillus—pneumococci, staphylococci or streptococci being the organisms then most often found.)
- e. Cancer of the bile passages.

Stenosis and obstruction of the bile ducts. (Stenosis may follow ulceration after the passage of a stone.)

g. Cholelithiasis.

As stated above, today we find only the

addition of chronic cholecystitis.

In this paper we are more concerned with those gall bladder conditions requiring surgical intervention and with advances made in their diagnoses. The most common and outstanding condition requiring such intervention is gall stones in the gall bladder or ducts, a condition almost always associated with cholecystitis.

In the majority of people, stones in the gall bladder cause no recognizable symptoms except when these stones are passing through or are obstructing the duct. Twentyfive years ago the diagnosis of gall stones was made on the history of biliary colic, agonizing pain in the right hypochondriac region radiating to the shoulder or through the epigastrium and lower thoracic region. This was often associated with vomiting, chills and fever. Jaundice was present in only about one fourth of all cases. Depression of the circulation or mild shock sometimes occurred.

The diagnosis with the above symptoms was easy, especially if there was a history of recurring attacks. The diagnosis was made still easier if the attacks were accompanied by jaundice and the absence of bile in the stools.

The physical examination in acute cases

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showed signs ranging from slight pain on deep pressure to extreme pain with muscle spasm depending on the amount of inflammation present. The gall bladder was at times palpable when there was an empyema or hydrops resulting from stoppage of the common or cystic duct.

Osler in this text of twenty-five years ago did not mention X-ray examinations or leukocytosis as a help in diagnosis. He did mention that acute cholecystitis may sometimes be difficult to recognize if there is no history of previous attacks, for in some cases there are no localizing signs.

He makes no classification of chronic cholecystitis. This condition is now fairly well known and frequently is treated surgically with marked benefit to the patient.

The rules for diagnosis twenty-five years ago are just as good today as then. They will lead to the diagnosing of just as many cases, but they also will miss as many. Undoubtedly, through the force of circumstances, these rules must be the only ones used by the general practitioner throughout the country today, but centers are constantly becoming more numerous and available to all physicians, where the more technical work of the advanced methods of diagnoses can be carried out. Patients may be saved great risks of subsequent complications if earlier diagnoses could be made and treatment instituted.

Osler wrote in 1904 that disease of the gall bladder must be differentiated from gastralgia, a condition that we now seldom hear mentioned as such. It has been replaced by pylorospasm, reverse peristalsis, chronic colitis or irritable colon, etc., nevertheless, evidences of a functional neurosis.

Table I shows the relative frequency of symptoms in a series of 766 cholecystectomies.

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TABLE I SYMPTOMS

Relative Frequency in this Series

Pain	615
Belching, bloating	
Nausea	319
Vomiting	193
Constipation	175
Jaundice	168
Weight loss	76
Fever	76
Chills	61
Heartburn	54
neadache	51
Vertigo	50
Nervousness	38
*	

It may be of interest to give also Table

II showing the pathological findings in these 766 cases operated upon.

TABLE II

PATHOLOGICAL DATA

Cholecystitis chronic	646
Cholelithiasis	
Catarrhal cholecystitis	
Strawberry gall bladder 19	
Calcified gall bladder	
Papillomatous gall bladder 1	
Normal gall bladder 2	
Cholecystitis acute or subacute	120
Cholelithiasis 102	
Acute exacerbation	
Gangrenous gall bladder 18	
Perforated gangrenous8	

We can today make a much earlier diagnosis of gall bladder disease, and hence more frequent, due to two new methods which have both been described and worked out since the great war. The first of these is with the X-ray and the opaque dyetetraiodophenolphthalein, described by Graham, Cophir and Cole 1924.¹ Before the use of this dye, X-ray pictures showed only the more dense calcium stones.

John Mateer and W. S. Henderson² in 1926 reported in a series of 590 cases studied by cholecystography as well as by duodenal drainage, sixty-four cases with proved gall tract disease operated on by us. The earlier method of intravenous administration of dye while good as far as the pictures were concerned, caused disagreeable reactions in some patients. The oral administration of tetraiodophenolphthalein was then used. This proved just about as satisfactory in end-results and was much easier on the patients.

Of the 590 cases so studied by them, sixty-four had been operated upon at the time their paper was written. Of these, twenty-seven had no gall bladder shadow with the dye. Operation showed 92.6 per cent correct X-ray diagnoses as twenty-five had stones or diseased gall bladder. Thirteen cases had faint shadow and operation again showed X-ray diagnoses 92.3 per cent correct.

Five cases in the series showed negative gall stone shadows and operation confirmed this 100 per cent. In the series, with studies confirmed at operation, the total cholecystogram diagnosis was 88.1 per cent correct.

Many reports have been published on the value of cholecystography by this method and all agree that it marks a great advance.

The second great contribution to early

diagnosis of gall tract disease has come through the use of the Rehfuss tube. Microscopic studies of the bile obtained in this way after stimulation reveals many secrets. This work received its great stimulus from the work of Lyon.3 The method has been retarded somewhat I believe by disappointing results in bacteriological studies. The reaction following the over-enthusiasm of those who were using medical drainage of the gall bladder as a means of therapy in the treatment of gall stones also had its effect. Certainly this so called medical drainage makes a great psychic weapon. The patients are all duly impressed for they can see in the bottle the A bile from the common duct, the darker B bile from the gall bladder, as it comes out, and the yellow C bile from the liver ducts. However, the pendulum has swung back from this widespread use of the duodenal tube for therapeutic drainage, and the great value of the method in diagnosis is becoming more and more apparent.

Piersol-Bockus and Shay, 1928, from the University of Pennsylvania, have written a paper, "to emphasize the importance of the examination of bile sediment in particular and bile drainage generally in the diagnosis of gall-stone disease." There is plenty of proof now that the B bile is dark because it contains concentrated bile from the gall bladder. They emphasize the importance of more than one duodenal drainage study if the first one is negative and also point out the importance of the calcium bilirubinate pigment—an amorphous granular precipitate, ranging from a lustrous golden yellow to deep orange. It is present in a very high percentage of the stone cases—73.8 per cent show this pigment and cholesterin crystals. In the majority of cases these elements were found only in the dark B bile.

Gall stones can be diagnosed in 73.8 per cent of the cases from biliary drainage findings, as compared with a total cholecystographic diagnosis of 35 per cent in the best hands. The value of biliary drainage is therefore quite apparent.

A preoperative estimate of gall bladder function from duodenal tube proved correct in 88 per cent. On the other hand oral cholecystography was found correct in only 65 per cent of the cases, according to Piersol-Bockin and Shay.

I cite the report of these men, for in our clinic in the hands of Mateer, we also find that with the microscopical studies of bile

obtained through the duodenal tube (especially in the finding of cholesterin crystals and calcium bilirubinate pigment), a positive diagnosis of gall stones can be made and with about twice the frequency of positive oral cholecystography. Sometimes B bile cannot be obtained, and this is presumptive evidence of definite gall bladder disease, if this finding is constant.

The finding of pus cells and columnar epithelium if bile stained indicates inflammation probably of the ducts, but is not diagnostic of stones or cholecystitis.

While we emphasize the importance of these two new advanced methods of diagnosis, it must be borne in mind that they only substantiate clinical evidence, which may be very positive or sometimes only faintly suspicious.

INDICATIONS

The one great group of unsolved cases and one which is pretty sure to affect each of us personally, if one is fortunate enough to live long enough, is the chronic degenerative disease group. It is believed by many that chronic foci of infection constantly but slowly feeding toxins to the system, offer a tangible cause for degenerative changes. Such foci may lurk for years in root abscesses, tonsils, sinuses or gall bladder. This knowledge is general and it is common practice almost everywhere today to clear up such infections around the mouth, tonsils and sinuses. There is still some hesitation in advising the clearing up of such infection around the gall bladder surgically, mainly I believe because it means a major operation still attended in the hands of most surgeons by a definite, though varying, mortality Two per cent to even as high as 30 per cent is reported, the latter where all types of gall-bladder disease are included in the statistics.

The treatment of chronic cholecystitis by medical methods has on the whole been disappointing, though I have seen some cases of undoubted improvement accompany this type of therapy. The indirect treatment of chronic biliary tract infection by removal of chronic infection elsewhere in tonsils, teeth and sinuses should always be practiced, judging from the results obtained. If the chronic cholecystitis is not then improved, I am inclined to believe the surgical treatment of the chronic cholecystitis should be seriously considered.

Dr. Frank Hartman in charge of the Henry Ford Hospital Laboratories reports that in our last 1,000 autopsies, over 10 per cent showed gall stones in the gall bladder or ducts. If only those cases over 40 years of age be considered this percentage jumps to well over 25 per cent. The incidence of chronic cholecystitis without stones is still far more frequent.

We have had 19 cases of primary carcinoma of the gall bladder and these without exception were associated with gall stones. This fact alone is enough to cause the advice of operation to be given whenever the diagnosis of gall stones is made, even though there are no disquieting symptoms.

A paper by Judd and Baumgartner reports that at the Mayo Clinic the relative frequency of malignancy of the gall bladder has diminished from an average of about 5 per cent in earlier years to about .5 per cent in later years. They conclude that the difference in percentage is undoubtedly due to the fact that diseased gall bladders are now removed earlier.

The hazard of the chronic degenerative diseases with their certain high toll of life is another potent argument.

SUMMARY

There have been marked advances in the diagnosis of gall tract diseases.

The duodenal drainage tube studies offer an even more accurate diagnosis than does cholecystography, if properly conducted.

Biliary drainage has been disappointing as a therapeutic measure in the majority of cases, but is of definite value in certain selected cases.

Chronic gall tract infection may be a factor in the chronic degenerative diseases.

Gall stones are a potential danger, not only because of mechanical dangers of obstruction and ulceration causing a complication of chronic infection, but also on account of being forerunners of gall-bladder cancer.

CONCLUSION

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Gall stone operation shoulld be advised whenever diagnosed if there are no definite contra-indications.

Patients with non-calculous cholecystitis should be first treated by clearing up focal infection elsewhere, and by other medical measures, and then, if symptoms persist, by operation.

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DISCUSSION

Dr. C. D. Brooks (Detroit): Mr. Chairman and Members of the Section: I will try not to repeat regarding fundamental reasons for early diagnosis of gall bladder diseases. I think we all recognize them.

Of course, Dr. McClure can not take up all the details regarding the indications in preoperation. I will mention one factor, and that is chronic jaundice. I believe that cases of chronic jaundice which do not respond to fairly early medical treatment within a week of two should not be allowed to go more than a short time after this experiment. Many patients with jaundice, whatever the cause may be, which lasts more than a week or ten days, should have surgical drainage. Cholecystectomy should not be performed in the presence of jaundice.

In many cases, patient when jaundiced accompa-nied by cirrhosis and cholangitis, may lose his life simply because there has been so prolonged infection, and delayed surgical treatment.

I emphasize again what Dr. McClure said regarding cholecystitis. The diagnosis can usually be garding cholecystits. The diagnosis can usually be made from the clinical history, in about 95 per cent of patients. I believe, with the addition of laboratory methods, especially with cholecystography, even a higher percentage of correct diagnoses should be made. Of course, with acute emergencies, with gangrene, and so forth, those patients should have emergency treatment, and should not be subjected. emergency treatment, and should not be subjected to cholecystography, thereby delaying their operation. Ordinarily patients should not come to opera-tion until they have had cholecystography. In an experience of more than five hundred patients who have had cholecystography, of whom more than two hundred and fifty have been operated upon, laboratory diagnosis confirmed the clinical diagnosis in over 95 per cent. We feel patients should not go on and on with medical treatment, when they have had the clinical diagnosis confirmed by the have had the clinical diagnosis, confirmed by the valuable cholecystography. At times the Graham test will be negative and show a normal gall bladder, and the gall bladder will not be normal by examination on the operating table, or upon section in the laboratory. The duodenal tube in medical treatment should not be used too long in well established cholecystitis. Surgeons constantly see patients with cholecystitis and secondary complications which might, in part at least, have been avoided by earlier surgical treatment.

I have a few slides to show, regarding one or two points of technic. (These were shown and

commented upon by the doctor.) A surgeon cannot decide ahead of time what he will do in operations for cholecystitis. This shows the method by which we avoid inury in the common duct. We feel it is safer, having seen a number of complications, to open the gall bladder in every case before we remove it. This is the method we use. Instead of using clamps, we use two sutures, and do not get bleeding. Forceps sometimes slip off, and bleeding occurs which causes operative complications and increases mortality. By this method the gall bladder is used as a retractor and a guide. When we perform an operation for gall bladder

disease on a patient with some serious complications, such as hepatitis, jaundice, pancreatitis, we often perform a choledochostomy, inserting a small tube in the cystic common duct, before the gall bladder is removed. This is important and is oftentimes a life-saving measure. It enables us to re-move the gall bladder and yet save the patient with biliary obstruction, and may eliminate a second operation.

At times, in obese elderly patients, with acute empyema or gangrene, we bisect the gall bladder, remove the gall stones, and strip out the mucosa, which is often entirely gangrenous, pack the gall bladder fossa full of gauze and leave in for a week

before removing it.

This slide shows many gall stones in a gall bladder, patient seventeen years of age. We want to emphasize especially that many young patients have had gall stones from early childhood. The old The old adage, fair, fat and forty, no longer holds true in a diagnosis of cholecystitis or its complications.

We have had a few more gangrenous cases than

Dr. McClure mentioned in his paper. I think he had thirty-five. We have had seventy-two gangre-nous cases, out of eight-hundred and fifty. You will see on another chart a resume of delayed have died and practically all cases are of delayed not diagnosis with very severe infection. We do not believe in an emergency operation for acute em-pyema of the gall bladder within the hour or immediately upon being admitted to the hospital if the patient is in fair condition. We believe a few hours, or in some cases days, improve the patient's general condition. Many of these patients are dehydrated and should have saline and glucose with the judicious use of morphine. In jaundiced patients, a small blood transfusion one hour before operation may be life-saving. It is, of course, of the utmost importance that gall-bladder operations should not be performed by inexperienced surgeons. After an experience of more than three years, we believe the experience of more than three years, we believe the use of spinal anesthesia makes the opration much easier and safer for the patient, and for the surgeon, than any other method.

SKIN CANCER AND ITS PROPHYLAXIS*

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Bearing in mind that the family physician through intimate professional and social contact with his patients still is and always will be the main force in the combat with disease, it is upon his observation, advice, and action as applied to the entire individual, or single person, that health can be safeguarded best. No amount of legislation, no number of social workers, no specialists who are interested only in parts, can supplant him in importance in maintaining community health. Where he fails, all fail.

In the war against cancer no part of the human body presents to the physician a richer

and broader field of study than the skin. On account of its proximity and accessibility, influences that tend to degeneration can nowhere else be observed so well, and close attention given to abnormal changes in the integument gives opportunity for earlier diagnosis than is practically possible elsewhere in man's structure. Also, the study of conditions inimical to skin health is of prime importance in the work of cancer control.

Altered functions of the skin and its pathological processes depend largely upon insult from within and without: on age, nationality, sex, season, occupation, infection, toxemia, allergic and nutritional states, and on its peculiar weaknesses, congenital or acquired. Cancer or processes tending to cancer may originate in any one of its anatomical constituents; namely, in any one of its various layers, its blood vessels, lymphatics,

nerves, and muscles; or in its modifications, the sweat glands, sebaceous glands, hairs, and nails. The systematic study of these various elements proves interesting and useful where prophylaxis and therapeutics of cancer are concerned.

All conservation movements must rest on the vigilance of the physician, on his clinical and pathological studies, and only his intense battle with individual problems can be depended on at the present time to affect the mortality tide in cancer. No broad rules of living can now be laid down to lessen the mortality rate in this disease, except those of living a clean and hygienic life, the avoidance of chronic irritation, acquiring correct habits in eating, observing cleanliness, and receiving from the physician a regular and careful physical examination, including a search into the patient's living conditions.

There is no doubt that the death rate from cancer is on the ascendency. It has doubled since 1890 and trebled since 1870. This situation urgently calls for serious study and continued interest in this disease, h

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and, whether the rewards be rich or poor, the future challenges the efforts of every person who is not indifferent to human suf-

fering.

It was only in 1908 that Irving Fisher¹ in his Report on National Vitality estimated that deaths from tuberculosis could be prevented by 75 per cent, thereby adding 2.5 years to human life, but he set the preventability of cancer at zero. In the 22 years that have passed since this report was issued, the anticipated improvement in the death rate from tuberculosis has now been practically attained, at least among the millions insured in the Metropolitan Life Insurance Company and in the general population of the larger and more progressive cities. However, it has been pointed out that the great reduction in general mortality has been realized in saving the young and that this acceleration greatly over-balances the increase in degenerative diseases of middle and old

age, including cancer.

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Hornell Hart2 states that instead of showing signs of having used up the major possibilities in preventive medicine, new discoveries bid fair to eclipse even past attainments in the saving of life. Discoveries relating to internal secretions, vitamins, chemistry, and radiology are just at the beginning of their exploitation. The immortality of the individual cell having been practically demonstrated, Dr. Hart assumes no age limit to human life and considers that it could possibly be 200 years in another century. In contrast to this view, however, Dr. L. I. Dublin³ states that within the last century nothing has happened to encourage the belief that the actual span of life may be lengthened. He thinks that people do not live to more extreme old age than they did in remote antiquity, but that the average is pulled up by the fact that more people live relatively longer. Thus, only the mean length is greater. He has shown that since 1921 the death rates from heart disease, cancer, accidents, and suicide are definitely on the increase, but the notable recent increase in cancer deaths as old age is reached furnishes the greatest objection to Hart's optimism.

Of the great killers, cancer is now third, being outranked only by diseases of the heart and circulation and the respiratory diseases. In 1928 the cancer rate in the U. S. Registration Area reached 96 per 100,000, according to the Bureau of Census. In Massachusetts, where possibly the most

determined effort against cancer control is in progress, F. L. Hoffman⁴ even shows an increase in cancer deaths in 1929 over 1928.

In its study of cancer mortality, from 1911 to 1922, the Metropolitan Life Insurance Company⁵ shows that the statistical study of cancer mortality is no simple matter, and that in respect to color, sex, and age, each group tells its own story, especially in regard to the individual sites of cancer. It is stated that every boy or girl who reaches the age of 10 has a greater chance of dying from cancer than from tuberculosis; of 100 boys 10 years old, over 8 will die of cancer; of the same number of girls, more than 11 will die of cancer, and in both together there is a greater probability of dying from cancer than from tuberculosis and pneumonia combined. There is shown an apparent slight decrease in cancer deaths among females between the ages of thirty-five and fifty-five and a decided increase in each sex beyond the age of fifty-five. The apparent slight fall in women between the ages of thirty-five and fifty-five may possibly be due to the campaigns of education for cancer prevention when persons are considered most amenable to such instruction.

In the period studied, deaths from cancer of the stomach and liver, female genitals, intestines, and rectum together constituted over two-thirds of the cancer mortality. Cancer of the skin was found responsible for 4.1 per cent of all cancers among white males, 2.1 per cent among colored males, 1.8 per cent among white females, and .9 per cent among colored females. Cancer of the buccal cavity was found in 8.9 per cent of all cancers in white males and 6.9 per cent among colorel males; only 1 per cent among females. In this list there are included cancer of the tongue, gum, mouth, jaw, cheek, palate, and tonsil, and the significant death rate begins with the age of thirty-five. It is to be noted that in this study cancer has a much higher death rate among white persons than in the colored, the mortality for white men being three and one-half times that for colored men, and in white women two and one-half times that for colored women. Just why the color difference should be so great is not understood. It has been suggested that the more pronounced secretory activities of the sweat glands and the heavier pigmentation offer greater protection to the negro against malignant growths. It is definitely shown that

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fat people and the less prosperous ones are more liable to cancer death. The great menace in cancer, however, lies in the ever increasing probability of dying of this disease.

The conditions surrounding the origin of malignant tumors appear to be made up of a number of etiological factors, but the one essential principle which underlies their inception still exists in theory only. Hence, such various factors as injury, occupation, habits, forms of chronic irritation and inflammation, pre-existing local disease, involutionary processes, isolated embryonal cell groups and tissues, abnormalities of internal secretion—all furnish conditions under which malignant tumors arise. plies to cancer anywhere applies especially to the skin on account of the common presence of these elements.

The local conditions which tend to the initial proliferation of cancer cells have been divided into two large groups, (1) misplaced embryonal cell groups including structural abnormalities and tissue changes not revealed by obvious microscopical changes, and (2) the "irritation group." Most skin cancers appear in these antecedent lesions that are potentially dangerous, many of them causing little anxiety or fear, and in connection with which an old adage may well be applied; namely, Familiarity breeds contempt. In these conditions a series of changes has been frequently observed, which may be considered to be preparatory to cancer development and to which the invasive character of the cancer cell is finally added to develop the true cancer, the inhibiting or restraining character being suddenly lost. There follows a list of these conditions with discussions.

LOCAL SOURCE OF SKIN AND ORAL CANCER

Senile Warts.—At about the age of forty and over there frequently appear freckle-like pigmentary areas, or small rough and scaly patches, especially on the cheeks, nose, temples, ears, neck, upper trunk, and on the backs of the hands. Their color varies from gray to brown to black. They include the so-called verruca senilis, seborrheic wart or keratosis, or the flat wart, some of which lesions may be nevoid in appearance. The scale may often be removed quite easily by rubbing, but slight bleeding may result. Most of these lesions remain unchanged indefinitely, although the tendency is to increase in size; but sooner or later some give

rise to ulceration and present the beginning of a superficial epithelioma, or rodent ulcer, as it is frequently named. At this stage the ulcer may often appear to heal, but a slight crust usually remains, only to present later a larger ulcer when the slight crust may be accidentally removed.

In some instances a distinct warty growth may be found on such a cancerous base, or a horny concretion of variable size may hide the true nature of the lesion for a long time. Such warts or horns are rather frequently seen at the edges of the evelids among the lashes, on the lips, ears, and on the nose. There is no doubt but that hereditary and constitutional influences, oily skins, and habitual exposure to wind and weather favor such changes, resulting in the so-called "sailor's skin" and "farmer's skin." Common sense should dictate the means of preventing or delaying the appearance of many such lesions; namely, the application of simple ointments or such covering for protection as occasion demands. These lesions are easily removed, as a rule, and the use of carbon dioxid snow is ideal for this purpose. With moderate pressure it is applied from 5 to 20 or 30 seconds or longer, depending on the thickness of the lesion, and the resulting dried vesicle or crust usually drops off in about ten days to leave a healthy appearing skin or a faint scar. With increased experience in careful timing, very fine results are obtained. Warts and horns may first be removed with the curette if neces-

The treatment should always be adequate, as frequent irritation is to be avoided. Strong salicylic acid plasters, trichloracetic acid washed off when the tissues are whitened, and other chemical caustics have been in use for a long time, but my own experience with them has not been satisfactory. Electrodesiccation is a satisfactory method of treatment, especially in the smaller lesions, the finest spark being used. The lightly screened radium plaque and the X-ray also have their uses in these conditions.

Warts and hyperkeratoses of the mucous membrane of the lips are seen frequently, and, as in the skin, they may exist for a long time before ulceration appears. Leukoplakia frequently co-exists. The treatment here is essentially the same as elsewhere, and my own main dependence is on carbondioxid snow and the radium plaque. It is

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to be remembered that epithelioma of the mucous membrane is most often of the squamous-cell type with a variable but distinct tendency to rapid growth and metastasis.

Leukoplakia.—Irregularly shaped, white, or milky patches and streaks are frequently seen on the lips, buccal cavity, and on the tongue, and they appear to be very similar in origin, course, and sequelæ to keratoses of the skin. They may develop considerable thickening, warty excrescences, fissures, and cancer.

Although the cause is not clearly established, irritation of long standing is, without doubt, an exciting factor. The use of tobacco, digestive disturbances, mercurialization, highly seasoned foods, alcoholics, dental caries, pyorrhea, infected salivary glands, and syphilis have all been indicted as contributory causes. Whether the opalescent appearance occasionally seen in syphilis of the tongue is identical with true leukoplakia is open to question.

My own experience with these lesions impresses me with the almost constant association of more or less severe mouth infection with chronic discharge of pus as the most fruitful source of leukoplakia. tensive leukoplakia is occasionally seen on the soft palate of heavy smokers in which the hard palate has been protected by a plate of false teeth. A careful examination of the mouth for rough-edged and decayed teeth, bleeding, and pus discharge from the gums to be elicited by pressure, should always be an important step in the course of every physical survey. Tonsil infection can usually be determined by a gentle expression of the crypt contents from which the odors are suggestive only too often.

Conditions in the mouth which can be mistaken for leukoplakia are especially syphilis, lichen planus, Vincent's angina, and recently it was my experience to find a white discoloration due to a yeast infection of the cheeks, which at first was mistaken for leukoplakia. In this instance, Mrs. W. H., aged 62, had been treated for leukoplakia, but later on culturing the scrapings, it was found that she was infected with the Endomyces vuillemini and was cured in several weeks by the daily painting with 2 per cent solution of gentian violet. The pearly discoloration resembling leukoplakia seen in syphilis does not tend to disappear with the general treatment of the disease. In lichen planus further evidence of the disease is usually found on other portions of the skin. Vincent's angina may be present with or without gum ulceration, but the associated gingivitis and stomatitis are usually uncomfortable or painful in contrast to simple leukoplakia.

Treatment of leukoplakia should first of all be directed toward obtaining health of the mouth, gums, and teeth. Irritation of whatever source should be stopped, and necessary treatment should be rendered to the teeth, gums, tonsils, chronic abscesses, sinuses, fistulas, and erosions, as they may be the offending factors. There is no agreement on the treatment of the lesions themselves; however, the use of the radium plaque and the destruction of the lesions with electrodesiccation are the two most favored means.

Moles.—The common mole of approximately split pea-size, smooth, hairy, or warty, of the color of the normal skin, or brown, with or without hairs, is not particularly dangerous. Nevertheless, frequent and repeated irritation occasionally gives rise to malignant degeneration, or such a change may occur spontaneously. A mole of this type can be readily removed by electrolysis with a current of about 2 to 10 milliamperes, the needle being applied rather deeply in parallel and crossed insertions. It is important that all the tissue be destroyed, especially in depth. The scar is usually smaller than expected, very satisfactory from a cosmetic standpoint, and after many years of treating such lesions in this manner, I have had only very favorable results. They may also be removed by the application of carbon dioxid snow, but usually a number of treatments are required, and the scar is often larger than desirable. Hairs, when present, should first be removed by Epilation by X-ray or radium electrolysis. is unsatisfactory, of some danger, and is

Although melanoma (melanotic sarcoma, or melanotic carcinoma) may originate in any pigmented spot in the skin, the blue or black pigmented mole is an especially dangerous one, and this danger is increased by a poor choice of treatment, as well as by local irritation from razors, clothing, and friction. Even though the proportion in which melanoma develops is small, the removal of such a lesion should be very carefully considered by both the surgeon and the

patient, and considerable responsibility is accepted by the former by any method of treatment, whatever tendency to spontaneous degeneration may exist in the tumor it-Meddlesome treatment should be avoided. Since pigmented cells may be found considerably beyond the apparent limits of the tumor, both in the skin and in the subcutaneous tissue, conservative treatment is not indicated in these lesions. Excision by means of the high frequency knife should be insisted on, the tissue destruction being both deep and wide, varying from 1/2 to 1 inch beyond the nevus in all directions. After the removal, the treated site and the neighboring glands should be well treated with filtered radium. When degeneration occurs it is invariably a melanoma of rapid growth, and metastasis usually follows quickly. The malignant change may be indicated by a slightly fungating surface, or the tumor may become noticeably larger in a short time.

In my records is one unusual case of this kind in which the patient has remained in good health longer than 5 years following treatment of the melanoma with metastasis: Mrs. A. E., aged 40, was first seen in February, 1924, with a bleeding dark-colored, fungating mass on the left lumbar area where the original nevus had been subjected to corset irritation for a long time. mole had been present since childhood, together with some others in the left groin and on the left thigh. The tumor was found to be a melanotic sarcoma (melanoma) which was transfixed with radium The original lesion healed, but the patient could not be induced to submit to any tissue removal at that time. After 6 months a deep tumor developed in the region of the left inguinal glands, to the removal of which she did give her consent after considerable radium and X-ray treatments. The mass excised by Dr. J. A. Mac-Millan was egg-sized, contained the tumor, the surrounding tissue, and the moles of long standing. Each of these tissues was diagnosed by Dr. P. F. Morse to be an alveolar melanotic sarcoma with the primary focus in the skin, giving a very unfavorable The microscope showed no difprognosis. ference between the tumor and the neighboring moles. Radon implants were used freely at the time of the operation, and, notwithstanding the most discouraging conditions, this patient recovered and is alive and well today. This case is mentioned because of its rarity and because it teaches at least a modest lesson of hope.

Warty and vascular nevi appear to have a very slight tendency to malignant degeneration, and reasonably good results are obtained by treatment with radium, electrolysis, carbon dioxid snow, and electrodesiccation, the choice depending upon the condition found and on the experience of the operator. Surgical removal is often found unsatisfactory, as recurrences may follow. The thicker angiomata respond best to radium. The simple superficial and rapidly growing angiomata of infants are usually treated best with carbon dioxid snow.

Kraurosis Vulvæ.—This disease of many names is marked by patches of leukoplakia about the mucous membrane of the vulva and is associated with variable itching, dryness, inflammatory areas, and exfoliation. In a recent study of the disease, Grave and Smith⁶ conclude that kraurosis and leukoplakia are phases of identical processes and point out its intimate relationship to cancer. Most of these patients seek relief only when the itching has become intolerable. disease is of slow advance, and the conditions which have inaugurated the process may have long ceased to act; namely, local infections, discharges due to old lacerations or other causes, and altered urine. Each case should be carefully considered and handled on its own merits. In the treatment, surgical removal or electrodesiccation hold first place. X-ray and radium tend to cause further atrophy.

Syphilis.—In the treatment of syphilis one must not lose sight of the fact that cancer may co-exist, the disease having developed on a syphilitic base or independent-Belote⁷ found co-existing cancer of the tongue and syphilis in 30 per cent of 92 cases, strongly suggesting cause and effect and that the carcinomatous tendency was distinctly hastened by syphilis. The malignant tumor may develop at the site of an old gumma, in an old glossitis, in a patch of leukoplakia, or in a scar. As an instance of the latter, the following case may be of interest: J. H., aged 52, was first seen in February, 1917, with great infiltration of the entire penis, a large ulcerated area extending from the foreskin to the base, with the history that the ulcer had first appeared some months before at the site of a chancre of the prepuce, which he had acquired ten 1

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years before. Biopsy showed squamouscell carcinoma, and the blood Wassermann test was XXXX. He died of carcinoma of the perineum and groins after nine months.

Arsenical Keratosis.—It is usually from the long-drawn internal use of arsenic that cancer may result. Many such cases have been reported following arsenical pigmentation, especially about the shoulders, neck, and after thickening of the horny parts of the skin, more frequently on the palms, soles, and the dorsum of the hands and fingers. Both physicians and patients are often disposed to continue the use of this drug far beyond the point of safety, and the frequent and permanent arsenical keratoses which are still seen prove how safety in treatment is often sacrificed for more brilliant but temporary results. The horny and dangerous lesions should be destroyed when possible. Cancers arising in this manner are usually of slow growth.

The Common Wart and Papilloma of the Tongue and Mouth.—Although the common wart appears to be infectious, both it and papilloma of the mucous membrane appear very frequently as the response to an irritant, and there is, no doubt, some malignant tendency. When cancer occurs it is of the squamous-cell and more rapidly growing kind. Fulguration, excision, and freezing with carbon-dioxid snow give the best results before malignancy appears.

Scars.—Old scars from various diseases, as lupus vulgaris, lupus erythematosus, syphilis, and burns, are likely to give rise to cancer. Each should be treated on its own merits.

Lupus Vulgaris.—The lesions of this disease not infrequently develop cancer of the prickle-cell type, and this tendency appears to have increased by the over-use of X-ray and radium.

Bowen's Disease and Paget's Disease.—
Both these conditions are now regarded as cancerous from the beginning. In the former the epithelial degeneration remains indefinitely within the confines of the epidermis, or it may invade the adjacent tissues. The true Paget's disease of the breast probably does not exist without carcinoma of the milk ducts, sweat glands, sebaceous glands, or adjacent tissues. These lesions are destroyed best by desiccation, cautery, or radium, and Eller and Anderson⁸ now advise complete removal of the breast.

Adenoma Sebaceum.—This is probably a

functional overgrowth, but there may be extensive hyperplasia of gland cells, and the lesions may resemble epithelioma. These lesions are doubtless the source of some skin cancers.

Occupational Affections.—R. Prosser White lists many occupations as tending more or less to malignant disease. who work in coal gas tar, especially when heated, in pitch, lignite, gas works tar, producer gas tar, and coke oven tar are found to be more than usually subject to epithelioma. Even innocuous petroleum heated to 880 degrees C. becomes carcinogenic, the dangerous factor apparently being released by heat. Workers in such fumes appear to be especially liable to cancer which may come a number of years after exposure. Tar workers include those employed in the making of flashlight batteries, tile makers, tar road makers, makers of roofing paper, stokers in gas works, and those who labor in tar distilleries. The skin alteration as the result of exposure to coal tar is very similar to the stimulation caused by X-ray. Workers in pitch are liable to epithelioma. They develop pitch comedones and warts, sores follow, and later develop rodent ulcer. Workers in soot have been notoriously subject to scrotal cancer in England, even children having succumbed to this disease. The development of epithelioma has been directly connected with work in creosote, lamp black, aniline dye, and irritating chemicals used in gardening.

Further, cancer has been reported in smelters of tin, nickel, copper, iron, silver, and other ores, in farmers using arsenical sprays, and in others who are subjected to arsenic dust. Workers in mineral oil and shale, the mule spinners in the cotton industry, railroad stokers, those handling hot pokers, and cobblers holding tacks in the mouth have furnished cases to be included in cancer deaths due to occupation.

Prevention consists of frequent washing and protection by proper clothing, application of bland oil to fill the pores of the skin before going to work, frequent medical examinations, and change of working habits when found to be dangerous.

X-ray and Radium.—The deleterious effects of the roentgen-ray and radium are now well known. Large doses or repeated small doses may produce pigmentation, telangiectasia, keratosis, atrophy, permanent epilation, ulceration, and occasionally

cancer. The effect may not be known for a number of years. Workers in radiology have been sufficiently warned by past experiences and generally employ ample protection at present. However, the dangerous effects of X-ray on the gullible public especially are well known to every dermatologist, and in recent times more and more cases of X-ray "burns" of this kind are being seen in consequence of the use of this agent for the removal of the hairs by quacks and the so-called beauty specialists. unfortunate results are frequently seen on the face, arms, and legs. They are permanently disfiguring, and the appearance of many unfortunate young women has been ruined by this means forever and beyond hope of improvement.

Miscellanous Causes.—Chronic ulcers, sebaceous cysts, lupus erythematosus, xeroderma pigmentosum, blastomycosis, psoriasis, eczema, lichen planus, syringoma, endothelioma, benign cystic epithelioma, paraffinoma, rhinophyma (Novy),10 and such bizarre causes as the wearing of a wedding ring, prolonged exposure, and the wearing of orthopedic apparatus have been found to cause cancer. Twice in the past year (patients D. O'D. and C. K.) and a number of other times, I have seen epitheliomas at a point of pressure of pince-nez. In connection with chronic ulcers, it is inadvisable to use caustic and irritating applications which are only too commonly employed. Relief of edema and inflammation associated with ulcers is usually obtained best by rest and elevation together with constant wet dressings of the mildest antiseptic applications. The ulcers are permitted to heal, rather than "cured."

Other Skin Tumors.—Other types of tumors found in or under the skin are the less common angio-endothelioma, having been found in the foot, finger, and face; endothelioma found in the scalp and penis; lymphoma and lymphosarcoma originating in the lymph glands; dermatomyoma; various neuromata; rarely osteoma; and that of greater importance, the spindle-cell sar-The small and large spindle-cell sarcomata are found in nearly all connective Various kinds of sarcoma originate spontaneously in the skin. They include the sarcoids which often disappear and do not produce metastases. The multiple hemorrhagic sarcoma of Kaposi is rather rare and is marked by cyanosis, edema, soft

bluish nodules and ulcerations. The giantcell sarcoma is occasionally found as a mass under the skin, is readily shelled out, and never yields metastases.

GENERAL COMMENTS

The suspicion or appearance of epithelioma demands the radical destruction of the lesion, and a number of methods are at the disposal of the physician. Metastases are but rarely seen in basal-cell epithelioma of the rodent ulcer type, and the superficial lesions can be removed frequently by excision alone if sufficient depth and width are taken, a very important requirement. Surgical diathermy, X-ray and radium, especially the latter, singly or combined, depending upon the operator's judgment, give excellent results, but recurrences may follow any method of treatment. Wherever possible, further wide resection of the area involved is advised. Such treatment may be employed when the lesion is on the patient's trunk or neck, but not so satisfactorily when larger and disfiguring scars may result about the face, and patients often prefer to accept the chance of getting well without mutilation rather than to increase their chances of recovery by permanent disfigure-The age of the patient, location of the disease, and the probability of recurrence should all be carefully weighed before determining upon any method of treatment. Generally speaking, about 75 to 90 per cent of rodent ulcers of small to moderate size and amenable to treatment are clinically cured by radium alone. Small epitheliomata may be removed perfectly by excision. Once, many years ago, I followed this procedure with success in the case of an epithelioma of the mucous membrane of the floor of the mouth. This patient was under observation for more than twelve years thereafter, during all of which time he was an object of much interest to me. In view of present day knowledge, however, I should not be satisfied with only this treatment, and it is certainly not to be recommended today. The same may be said for the destruction of small epitheliomata by the application of carbon dioxid snow.

The superficial cancerous ulcerations on the cutaneous or mucous surfaces do not show much tendency to extension into the lymph glands, if they are of the rodent ulcer type. The adenoid epitheliomata show a tendency to reproduce the glands, and in these structures there appear finger-like projections from the basal epithelioma, or from the gland ducts, with hornification of the In these the lymph nodes squamous cells. may be affected early, metastasis being favored by atypical structure, deep origin, deep ulceration, long duration, and inflammation.

Intra-oral cancers are preventable, accessible, and curable, but the treatment must always be early and adequate. Early skin cancer of the basal-cell type may be safely treated with sufficient radiation. Early squamous-cell epithelioma always requires a maximum of radiation, from two and onehalf to ten times the erythema dose, but when possible, wide excision with removal of the regional lymph nodes is preferred.

CONCLUSION

There being no absolute criteria for the diagnosis of early cancer, there are, nevertheless, a number of features in the clinical progress of this dreaded malady which can be interpreted as cancer beginnings and which occur with monotonous regularity. These mild symptoms too often cause but little concern and excite an apprehension only when discomfort, pain, sudden growth, or bleeding are added. The spread of cancer depending, as it does, on peripheral ex-

tension and metastasis through the vessels by either cell-growth in chain-like extension or by cell emboli, who shall say when, how, or how far such extension takes place?

That cancer and, rarely, the metastases are curable is undeniable; that an underlying constitutional cancer tendency will remain must also be granted. How, then, can we expect to attack the cancer problem with the greatest hope of success if not by prophylactic treatment? As the power of one of mankind's great enemies is being more fully appraised, we should stand ready with a campaign of prevention to meet it with increasing hope and confidence, believing that the rising tide can be turned. 938 David Whitney Building.

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THE TREATMENT OF POLLEN ASTHMA, HAY FEVER AND POLLEN DERMATITIS BASED ON A POLLEN SURVEY OF DETROIT*

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It is not generally appreciated that approximately 30 to 40 per cent of all asthmatics are of the seasonal type, having attacks only during certain months of the year. type of asthma is principally caused by pollen and can be entirely prevented by proper treatment with pollen extracts. Among patients suffering from the perennial type of asthma due to foods, animal emanations, etc., in 90 per cent, pollen is a highly aggravating factor. In these patients, as well, great improvement can be accomplished by injections with pollen extracts. For seasonal hay fever, poller treatment is at present considered the method of choice.

In determining what pollen extract we should use in the treatment, it is essential to be thoroughly familiar with the local hay

fever flora. The data which are at present available for Michigan are very incomplete. The nearest cities in which thorough pollen surveys have been conducted are Chicago, Indianapolis and Memphis. Treatment suggested for Detroit and Michigan is largely based on the results of this work.

^{*}This work has been made available by the Wineman Re-earch fund presented to the North End Clinic, Detroit,

Read before the medical section of the Michigan State Medical Society. Benton Harbor, Sept. 15-17, 1930. †For personal notes see August, 1930, number of this Journal.

In selecting the pollen for our treatment we are accustomed to be guided by skin tests. It is generally agreed today that sensitization tests are not reliable. We frequently see negative skin tests in definitely ragweed-sensitive patients. On the other hand, positive skin tests are obtained with pollen which are certainly not present in the environment of the patient at the time of his hay fever.

To secure more accurate data about Detroit's hay fever flora, and thus to obtain a means by which to make a more correct pollen diagnosis, was the purpose of this

paper.

Two methods are available for such a study, namely, to investigate the plants in the fields and to observe the pollen in the air. Either method alone is limited in its value. For a thorough field study extending over an area sufficiently large to be of value, would be impossible because some pollen is carried by the wind more than one hundred to two hundred miles. On the other hand, on examining the pollen in the air by means of exposing vaseline coated slides, the correct identification of the pollen grains on these slides is extremely difficult, if not impossible. During our investigation, therefore, both methods were employed, one serving as a check on the other. In addition, a clinical survey has been conducted on a large number of patients, which, however, will require several seasons for completion.

The following problems presented them-

selves during this study:

1. What plants constitute the hay fever flora of Detroit?

2. Which pollens are present in the air of Detroit?

3. On what dates do the prevailing plants first appear, and when do they produce the largest amounts of pollens?

4. Are there pollens or other substances in the air that have not as yet been recognized as hay fever producing agents?

For the field study some thirty-two fields in the vicinity of Detroit were surveyed botanically at least twice during the interval between May and October 1, 1929, by one of us (W. C. S.), the relative number of species in each area being recorded.

The plants present in greatest abundance were graded number 5, the most sparsely distributed ones, number 1, while the numbers between 1 and 5 were used to denote the intermediate degrees of frequency. A summary of the thirty-two records yielded column 1 of Table I, which thus presents the numerical distribution of the common plants.

TABLE I
FREQUENCY OF OCCURRENCE OF HAY FEVER PLANTS IN
DETROIT

DEIROII		
PLANT 50 ung	Survey Sheets Relative Ability to Produce Wind Borne Pollen (On scale of 100)	,
June grass (Poa pratensis)	15 60 96 95 97 5 98 1 56 15 55 90 47 80 42 10 334 100 332 0 28 20 27 0 25 60 19 20 19 20 16 18 15 5 15 15 15 16 10 30 10 35 7 15 3 20	
(1 ou compressa)	1 30	

After having obtained this information about the most abundantly occurring plants, it was then necessary first to observe the behavior of each plant during the season and second to study each individual pollen. Aside from the prevalence of a plant, its hay fever causing quality depends also on the ability to produce pollen in large quantities and furthermore on the question of whether or not the pollen grain is wind borne. Tree pollen, for instance, is larger and therefore heavier than ragweed and can thus be carried only about 10 to 15 miles by the wind. The relative roughness of the pollen grain is also to be considered. Ragweed and cocklebur, for instance, with their spiculated surface, are carried far more easily by the wind than the grass pollens, the surface of which is smooth. The pollen of other plants such as goldenrod, although relatively small in size, is surrounded by a resinous material which makes it sticky and adhere to the plant by which it is produced. Moist pollens

as those of most flowering plants such as roses are too heavy to be wind borne. All such plants, therefore, can be eliminated from consideration as cause of pollen disease.

An evalution of the ability of the plants encountered, to produce wind-borne pollens is given in column 2 of Table I. In this table the ability to produce wind-borne pollens for giant ragweed, which is the most profusely pollinating one, is taken as a standard of 100 per cent. The other figures give a comparison of the other plants on this basis. They were estimated from observing these plants and from studying the behavior of their pollen. From this chart it is evident that orchard grass, timothy and English plantain follow the ragweeds closely in their hay fever producing qualities.

FIELD SURVEY

The field survey showed a remarkable uniformity in the growth of weeds in various parts of the city, June grass, short ragweed, goldenrod, sweet clover, quack grass and giant ragweed being the ones most frequently encountered.

In the downtown district of Detroit there was as much pollen present as in the outlying areas, which can be explained by the presence of many vacant fields across the Detroit river. In some places we found certain plants such as cocklebur and pigweed in abundance and plates exposed in such areas showed a marked prevalence of their pollen. This predilection of weeds for certain areas of the city is very important as an etiological factor in unexplained cases and emphasizes the need for pollen studies in the patient's home surroundings.

Some plants, such as dandelion, milkweed and thistle, which do not produce windborne pollens are included in this study because at the time when their seeds are carried by wings through the air, a large number of microscopic fragments resembling parts of these plants were discovered which may possibly have some bearing on the cause of asthma.

AIR STUDY

For the air study, vaseline coated microscopic slides were exposed daily in Ann Arbor and Detroit and the collected pollens counted and identified. Figure 3 gives dates and calculated number of granules of

pollens per cubic yard of air calculated by counting an area of 1.8 sq. cm. of slide surface. The factors on which the pollen content of the air depends are mainly direction and velocity of wind, rainfall and baromet-

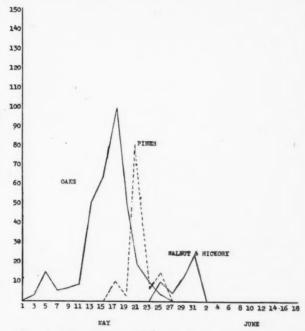


Fig. 1. Tree season starts already in April when elm, box elder and maple pollinate. Not many patients require treatment because tree pollen is heavy and not carried very far and because season is short.

ric pressure. Wind causes greater pollen counts on the slides. It has been demonstrated that in closed rooms pollen counts are very small. About 3,000 feet above the surface, there are as many pollens as in an altitude of 200 feet. Rain frees the air of pollen, but subsequent sunshine makes pollination more abundant than before. Low barometric pressure, however, saturates the areas close to the surface with pollen. In accord with this observation, patients suffer before a rain, but improve during and immediately after rain. They are at their worst when sunshine or wind follows the rain. In the early morning hours there are more pollens in the air than at other times.

The graphs themselves are self-explanatory and demonstrate the time of the three pollen seasons, namely the tree season in early spring (Fig. 1), grass season in June and July (Fig. 2) and weed season in August and September (Fig. 3). The curves of the ragweed season for Detroit and Ann Arbor show great resemblance, with the difference, however, that the counts in Detroit were about twice as high as those of Ann Arbor. This is probably due to the

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fact that the Detroit slides were exposed in an open field.

During the course of this study the slides were frequently found to contain various types of fungus spores (Fig. 4), especially

toward predisposing to hay fever and asthma of the other seasons.

The so-called rose fever in June and July is due to June grass if it starts during the last week of May, to timothy and orchard

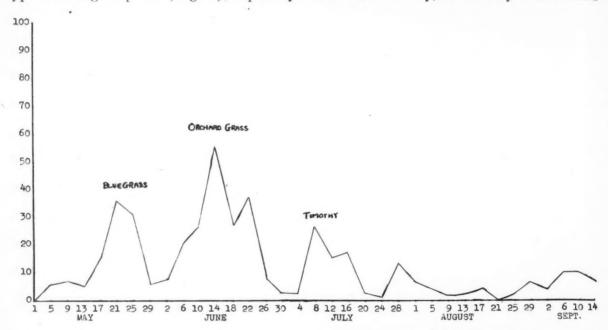


Fig. 2. Grass season ("Rose fever"). Very little red top was observed. Docks and plantains pollinate from June 1 to August 5, chenopods and amaranths from July 20 to September 12. Cat tails about June 20.

after the close of the pollen season, at the time when untreated cases of hay fever suffer their worst. The commonest and most noticeable of these spores are the multicellular spores produced by various septate molds, as Alternaria and Macrosporon. Found in smaller numbers, but more generally throughout the season, are the very small unicellular, transparent or colored spores of such molds as Aspergillus and Penicillium. Fungi, as cause of asthma and hay fever, have lately come into their own. Judging from the literature available, there is no doubt that they play a much larger role than heretofore supposed.

HAY FEVER

In applying the data obtained to the treatment of pollen disease the following should be emphasized. In the Detroit area the tree season in March and April is elicited mainly by maple, oak and elm. While there is a relatively small percentage of patients suffering from this type of hay fever and while the season is usually of a short duration, there is a need of desensitizing some of these cases, because the nasal changes produced by the tree pollen may contribute

grass in June and July. About 10 per cent of all hay fever patients suffer from this type. For cases who are troubled throughout the end of July and the beginning of August, lambs quarter, yellow dock, English plantain and pigweed should be considered in addition in the Detroit area.

The fall season, which is inaugurated by giant ragweed on August 15 and by short ragweed about August 23 is nearly exclusively brought on by these two weeds. In the few cases who are not fully responsive to ragweed treatment, consideration should be given to cocklebur about September1, and marsh elder during the latter part of September.

ASTHMA

The treatment of asthma has been greatly improved, since we have learned to use larger doses of pollen extract. The need for desensitization with pollen is well demonstrated by the fact that these patients develop worse attacks on days of the pollen peaks, whereas during the time when little pollen is in the air their asthma is relieved. During the winter the part played in the fall by air-borne pollen seems to be taken over

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red. fall ver by the action of molds, especially on moist days and at the time when the leaves start to rot. Spores of molds are equally irritant to the mucous membranes of the nose and sinuses as pollen. The frequent association has been until recently largely neglected, although it is not infrequently encountered among allergic cases and very difficult to improve by measures other than pollen extracts. It is characterized by its seasonal

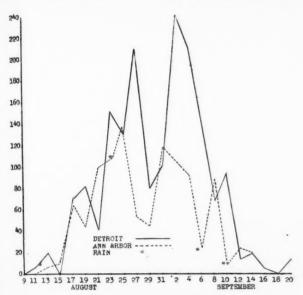


Fig. 3. Fall (Ragweed) season. Note the similarity between both curves. The Detroit curve shows higher counts because the slides were exposed in an open field.

of nasal catarrh and sinus infection with asthma at that time, points to the above conception.

In treating the purely seasonal asthmatics, one has to consider the fact that these patients are usually much more sensitive to pollen than hay fever cases. Therefore their immunity against the offending pollen has to be built up to a much higher level than in uncomplicated hay fever cases. To attain this result the course of treatment is planned so that the maximum final dosage reached during the injections averages at least 30,000 to 40,000 units. The treatment is strictly preseasonal, since severe asthmatic attacks have been encountered in those patients who have not reached their final dosis before the season started. If the pollen treatment is carried out throughout the whole year with the maximum dosis attained before the onset, these patients may improve to such an extent that even the causative factors other than pollen may be entirely controlled.

POLLEN DERMATITIS Pollen dermatitis is a condition which

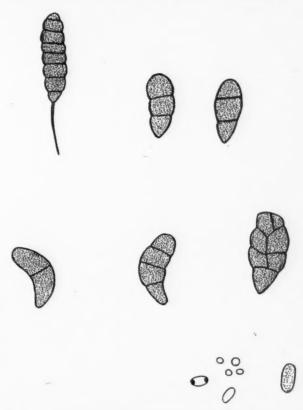


Fig. 4. Spores of molds encountered on our pollen slides. They may contribute to the causation of asthma.

occurrence and by the appearance of small papules, which may develop into blisters and crusts itching severely. Where there has been a previous abrasion of the skin, they may develop into small ulcers. In order to demonstrate their etiology, the so-called patch test is a reliable method, which consists in applying dry pollen to the skin, fastened by adhesive tape for several hours. Treatment with pollen extract is very efficient if given before the onset. Coseasonal treatment has caused temporary flare-ups in some of my cases.

In conclusion, I wish to emphasize that in all cases of possible pollen etiology the dates of symptoms should be thoroughly checked with the available pollen charts in order to secure the best therapeutic results.

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REPORT OF CASE OF TUBERCULOMA OF CEREBELLUM

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Tuberculomas of central nervous system have come to be rather uncommon conditions. Dr. Wagener in 1927 reports that only fourteen cases of tuberculomas of central nervous system had occurred in 1,000 cases of authenticated brain tumors at the Peter Bent Brigham Hospital. This included patients of all ages. Forty years ago the situation was quite different. In 1890, Starr, writing in Keating's "Cyclopedia" reported that 50.8 per cent of all brain tumors in patients under 19 were tuberculomas and that 13.6 per cent of brain tumors found above that age were tuberculomas. In the 1,000 cases reported by Dr. Wagener he found that 3.5

ported by Dr. Wagener he found that 3.5 per cent of the brain tumors found under 19 years were tuberculomas, while only 1 per cent of the tumors above that age were tuberculomas. That would indicate that they are still four times as common in young patients as they are in adults, but still rare.

Their rarity is also shown by the fact that Dr. Wagener saw only two cases during a service of 2.5 years, in a clinic in which neurologic surgery played an important part.

They may occur at any age. The youngest that I have found reported in the literature was in an infant 23 days old. Another case reported was in one 5 months old, and another at 18 months. They may occur then from young infancy up through adult life.

But since they are relatively rare at present day in this country it is worth while to report any cases of tuberculomas seen.

There are several considerations that are very interesting.

First is the location. Almost all writers have laid stress on the fact that tuberculomas of childhood show a marked predilection for the cerebellum and brain stem. However, Anderson reporting a series of cases from the Philadelphia General Hospital found only 29 per cent of the cases located in cerebellum. But, on the other hand, the cases he reported were in an older age group. Gowers reports that one-third of all the tumors are located in the cerebellum. Ferris reports that eight cases were found at autopsy and in seven of the eight cases he found the cerebrum to be involved.

Second is the frequency of terminal meningitis in these cases. There are probably very few cases found in which a terminal meningitis is not the final outcome. There are some writers who believe a tuberculoma may become healed, but a healed tuberculoma is an exceedingly rare finding at necropsy.

A third interesting point is the frequency that trauma seems to be a factor in localizing the tubercle bacilli. This point is stressed by several writers.

A fourth point is the impossibility of doing much in a curative way for these cases. In only a comparatively few cases has an extirpation of the tuberculoma been attempted. Permanent recoveries have been exceedingly few, and these have been after removal of cerebral lesions in adults. Operations have been chiefly valuable as palliative procedure, but in a few weeks or months the patients have succumbed to a terminal meningitis.

The fifth point is the method of growth. The tumors vary greatly in size, and may grow to be as large as an orange. It grows by the coalescence of spreading tubercles at the periphery. On section these tumors often present a cheesy appearance in the center, while the periphery is grayish in color or translucent and the surrounding brain tissue is softened. The comparative absence of blood vessels accounts for frequency with which degeneration and softening occur.

It may be that multiple involvement of the brain is more common than is thought. In the eight cases which Ferris reported, and which came to autopsy, multiple involvement was found in seven. Ferris feels that sections must be made through the brain at close intervals to rule out multiple lesions.

CASE OF TUBERCULOMA

The case that I wish to report is of a colored girl, 9 years old, who was admitted to Butterworth Hospital, April 9, 1928. Her family history and

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past history were entirely negative. The present illness started one and one-half years ago, following a fall with injury to her head. Following that injury she developed an internal strabismus of the left eye and loss of weight with increasing weak-ness. Five months before admission she had severe headaches, chiefly located in the back of her head and neck and associated with vomiting. At present she has no headache and no vomiting but complains of stiffness in the back of her neck. She has had no fever. No ataxia has been noted at any time. The child was brought in because of the progressive weakness and loss of weight. She had been attending school until time of admission.

The examination was negative except for the neuromuscular examination, which showed bilateral hyperactive knee jerks, positive Gordon and Oppenheim and a bilateral Kernig. There was some rigidity of the neck muscles. The blood count showed a mild anemia only. Urine was negative. Her spinal fluid was under some increased pressure, was clear, with no pellicle. Globulin was 3 or 4 plus. There were 136 cells present. No tubercle bacilli were found, and culture was sterile. Kahn on fluid was negative. Colloidal gold was not typical of any condition. Von Pirquet test was negative.

X-ray was negative. Dr. G. J. Stuart, neurologist, was called in consultation. His report was as follows: Deep reflexes are present and active, more active on left side. Sensation is negative. Neuromuscular negative. No Babinski. No clonus. Kernig is positively bilaterally. There is some suggestion of retraction and stiffness of neck, but not marked. Eyes react sluggishly to light and accommodation. Eye grounds show considerable clouding of discs on both sides. Left sided strabismus. Mentally well oriented. Some retardation in mental reactions. There is a strong suggestion of chronic meningitis of tuberculous type regardless of absence of tubercle bacilli in spinal fluid.

The spinal puncture was repeated with essentially the same findings.

For one week her condition remained the same. Then she began to have occasional attacks of severe pain in her head lasting from two minutes to one-half hour. These did not occur oftener than once in 24 hours. During these attacks she would assume position of opisthotonos and would moan and sway from side to side. Between these attacks she was bright and as well as usual. Her temperpulse and respiration remained normal. On the 14th day she died suddenly in the midst of one of these attacks of pain in her head. An autopsy was performed by Dr. Margaret Miller, pathologist of Butterworth Hospital, who found the surface of the brain to appear normal. Incision into the lateral ventricles was followed by the escape of a large amount of slightly cloudy fluid which was not

measured. The ventricles appeared to be 3 or 4 times their natural size. Third ventricle greatly dilated, fourth ventricle about normal size. There was no evidence of tubercles on the surface of the brain or ventricles. The outer surface of the cerebellum had translucent areas. There was an increased consistency and opacity of the right half of the cerebellum and right cerebellar peduncle.

Gross examination of chest and abdomen was

negative. Sections from the right half of the cerebellum showed a mass of tubercles, some fresh and some caseous. Tubercles were avascular for the most part and contained typical tubercular giant cells. Sections the surface and did not extend into the sulci.

of the remainder of the cerebellum and cortex were normal except for a slight round cell infiltration of the meninges. The round cell infiltration was over tions of the cerebrum showed no round cell infiltration. Sections of the pons and the choroid plexus showed round cell infiltration and some diffuse round cell infiltration, but no tubercles. Sections of the peritoneum of appendix showed some round cell infiltration. The pathologist's diagnosis was tuberculoma of the cerebellum with internal hydrocephalus, a very early serous meningitis and early peritonitis, probably tubercular.

Spinal fluid was injected into a guinea pig. In two months the pig was killed and there was no evidence of tuberculous lesions and no tubercle bacilli were found.

The history in this case started with an injury to the head, as so many do. The lack of ataxia was interesting and the fact that no tuberculous lesions could be found elsewhere in the body, either during life or post-mortem.

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INTRADURAL CAUDAL ANESTHESIA IN

UROLOGY George H. Ewell, Madison, Wis. (Journal A. M. A., Jan. 10, 1931), urges that it should be the aim of urologists to make cystoscopic examinations and all operative procedures through the cystoscope as painless as possible; better cooperation is obtained from both the patient and the general physician. Caudal anesthesia produces sufficient relaxation of the bladder for complete cystoscopic examination and treatment in all types of cases, the operative procedures are painless, and the work of the operator is greatly facilitated. It also provides a safe and reliable anesthesia for perineal surgery and operations on the external genitals in men, rectal surgery, and perineal plastic operations in women. The method of intradural caudal anesthesia is recommended because of its simplicity and reliability; by a single intradural injection complete sacral block anesthesia can be produced, whereas by the extradural technic the introduction of a needle and anesthetic solution into the sacral canal and into several or all of the eight sacral foramina would be neces-

FAMOUS MEN IN MEDICAL HISTORY

JOHN MORGAN*

BURTON F. BARNEY, M.D.

"The historian who shall hereafter relate the progress of medical science in America will be deficient in candor and justice if he does not connect the name of Dr. Morgan with that auspicious era in which medicine was first taught and studied as a science in this country."

BENJAMIN RUSH.

In the year 1736, in the thriving city of Philadelphia was born a child who was to revolutionize the then current precepts and practice of medicine. The father, Evan Morgan, a successful merchant of the town, was destined to become quite eminent in public affairs. It is recorded that he became a member of the board of managers of the Pennsylvania Hospital and held this position for two successive terms, a warden of Christ Church of Philadelphia and a personal friend of the world-famous Benjamin Franklin. The mother, formerly Joanna Biles, came from a socially prominent Quaker family, and of a quiet home life. With this ancestral background, it can be readily seen why John Morgan became the man he was. The child grew up in a congenial atmosphere of culture and intellect, doing the things that the normal boy of the times did, but early there was noted a strong propensity for learning and an uncommon application to books.

His early education was begun at Nottingham Academy in Maryland, where, under Dr. Finley, he acquired the rudiments of learning. Even at this early date in his career, his special attributes were recognized for he was reputed to have been one of Dr. Finley's best students. He finished his studies under the Reverend Doctor Allison, at the College of Philadelphia in 1757, from which school, in the first class graduated, he received the degree of Bachelor of Arts. He acquired during his student years the esteem and affection of his teachers by his unusual diligence and proficiency in all the divisions of the Arts.

During his last years of attendance in the college he began the study of medicine as an apprentice to Dr. John Redman of Philadelphia, thirteen months of which time were

spent as apothecary at the Pennsylvania Hospital, where he acquired a knowledge of the various drugs unusual for the times while acting in this capacity he compounded many prescriptions for the foremost men of the times and became intimately acquainted with them. In this station his conduct gained the confidence of his master and the affection and the gratitude of his patients.

After the expiration of his apprenticeship with Dr. Redman he entered the Provincial Army in the Pennsylvania Troops in the war between the French and the English, in the capacity of surgeon. Here he carried out his work with his usual diligence and intelligence and was warmly recommended by Dr. Benjamin Rush. His experience stood him in good stead for the position that he was to hold in the army of the Colonies in their war for freedom from the British Empire. Dr. Rush said he had heard of him, "if it were possible for any man to merit heaven by his good work, Dr. Morgan would deserve it for his faithful attendance upon his patients." He spent four long tedious years in the army—a vigorous training for any man.

In 1760 Morgan sailed for Europe to spend five years of study. In England he attended the lectures and dissections of the celebrated Dr. Hunter, where he attained a first hand knowledge of anatomy from one of the most brilliant men of the times. From here he went to Edinburgh, where he attended the lectures of Professors Monroe, Cullen, Rutherford, Whyatt, and Hope, the foremost men of medicine in their country at that time. He spent two years of study there at the University of Edinburgh in the pursuit of medicine, and at the end of that time wrote his famous thesis on the basis of which he was granted the degree of Doctor of Medicine. In this thesis, "De Puopoiesis" —on the formation of pus—he postulated,

^{*}Read before the Victor C. Vaughan Society, University of Michigan, Medical School, November, 1930.

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and adequately sustained his arguments, that pus was a secretion formed in the bloodvessels during inflammation; thereby anticipating Hunter's theory of its origin from the blood by several years. The thesis itself is said to be a masterpiece of Latin composition.

From Edinburgh, Morgan went to Paris, where he concentrated upon anatomy in particular, attending the lectures and dissections of Mr. Sue. While here, he injected a kidney in so remarkable a manner as to excite the admiration of the French anatomists of that city—an art in which he had become quite proficient during his stay He also wrote papers on in England. "Suppuration" and "On the Art of Making Anatomical Preparations by Corrosion, and delivered them before the Royal Academy of Surgery in Paris, upon the strength of which he was elected a member of that society.

While on the continent he also visited other countries, being in intimate contact with the foremost men of the times. Voltaire is said to have been charmed by Morgan's personality. Morgan himself has written an account of his visit with Voltaire, telling of the kindly reception and excellent advice given him by the philosopher. While in Italy Morgan knew Morgagni personally, who claimed related lineage because of the great similarity of their names. They would often sit for hours discussing subjects pertinent to their own interests and the times. In a letter to Benjamin Rush, Morgagni speaks of Morgan in terms of highest praise. Upon Morgan's departure Morgagni gave Morgan his recent work "De Sedibus et Causis Morborum," inscribing in his own hand "Affini suo, medico præclarissimo John Morgan, donat auctor." When he was in Italy he was elected to the Belles Lettres Society of Rome.

During his passage through Switzerland, he passed the region we know as the "goiter belt" and here recorded a description of the signs, symptoms and etiology of that disease which should be of interest to all physicians in the region of the Great Lakes: "In this country [Turin], I could not but take notice of the tumidum guttur Alpinum which Horace mentions. It is said to be a disease arising amongst poor people from their drinking snow water. It is a sad

sight when it got to any considerable degree. Some I saw who had a swelling on their throats and necks as large as their heads, projecting forward and some hanging down



Dr. John Morgan (Reproduced from Morris's "Early History of Medicine in Philadelphia")

an enormous weight or rising up so as to entirely cover one side of their faces, a most shocking sight." This commentary shows the keen discernment of a mind that was prepared.

Upon Morgan's return to London he was elected to membership in the Royal Society, and was named licentiate of the Royal College of physicians of that city—honors not too freely bestowed.

During the period that Morgan had been abroad he had thought much about the founding of a medical school in his native city. He had conferred with several men upon the subject, of whom a contemporary American physician, William Shippen, was one. All with whom he had spoken received the idea kindly and, indeed, with enthusiasm.

Upon his return, in 1765, Morgan brought with him from the proprietary Thomas Penn, to the Board of Trustees of the College of Philadelphia, a letter endorsing the scheme to establish a medical school in conjunction with the college. He also presented the fact that many prospective students were

attracted to Philadelphia by the excellence of the physicians in that city and the brilliant social life that was there. The fact that a medical school was essential to the country, and that region in particular, was quite apparent and his plan met with immediate approval. On May 3, 1765, the Trustees of the college elected him Professor of the Theory and Practice of Medicine—the first in the United States. In this manner was established the first medical school in this country, the school which now flourishes as the Department of Medicine of the University of Pennsylvania.

On the thirteenth of May, 1765, Morgan "A Disdelivered his celebrated address, course upon the Institution of Medical Schools in America," which is described as being one of the classical books on medical subjects of the times and an excellent example of English composition. In this paper he recommends a very comprehensive preliminary education preparatory to the study of medicine, an idea which has been only fully grasped in the last twenty-five years. He subdivides medical education as a whole into anatomy, materia medica, botany, chemistry, and the theory and practice of medicine. To quote him: "It is Anatomy that guides the doubtful steps of the young votary of medicine through an obscure labyrinth, where a variety of minute objects present themselves in such a group as first to perplex his imagination . . .

"As a skillful pilot informs himself of the least bank of sand or shoal where he is to avoid navigating his ship, so every follower of medical pursuits should be intelligent in the minutiæ of Anatomy, if he wishes to practice with ease to himself, and to the benefit of his patient . . ."

"Anatomy, Materia Medica, Botany, Chemistry and the Institutions, are only the ladder by which we are to mount up to practice."

His observation upon the uninformed practitioner of the art is also very interesting: "Remorseless foe to mankind: actuated by more than savage cruelty: hold, hold thy exterminating hand."

The prophecy in this paper, for the future of medical education, is indeed remarkable: "Perhaps this medical institution, the first of its kind in America, though small in its beginning, may receive a constant increase of strength and annually exert new vigor. It

may collect a number of young persons of more than ordinary abilities, and so improve their knowledge as to spread its reputation to distant parts. By sending these abroad duly qualified, or by exciting an emulation amongst men of parts and literature, it may give birth to other useful institutions of a similar nature, or occasional rise, by its example, to numerous societies of different kinds, calculated to spread the light of knowledge through the whole American continent wherever inhabited." We of today, looking back, can see the fulfillment of this prophecy.

In addition to the Chair of Surgery held by Dr. Shippen, and the Chair of the Theory and Practice of Medicine, the Professorship of Chemistry, held by Dr. Benjamin Rush. and a Chair of Materia Medica and Botany, held by Dr. Adam Kuhn, formed the teaching staff of the infant medical institution. A course of lectures was prepared and delivered by each man, the price of each course varying according to the subject and the amount of material presented. In addition to such fees, which usually amounted to six pistoles (about twenty dollars) per course, there was a matriculation fee and demands for diploma seals and a donation for the upkeep of the library.

In 1769 Dr. Morgan had the pleasure of seeing the first fruits of his labors for the advancement of medical education in this country, for in that year the first honors in medicine in America were confirmed upon five young men.

Dr. Morgan retained the professorship of medicine until his death, when he was succeeded by Dr. Benjamin Rush.

His efforts were not confined to the practice of medicine and its teaching, for he had an active part in the establishment of the American Philosophical Society in Philadelphia. It was under his guiding hand that the first medical society was founded in 1765, although little record of its transactions remains. "He possessed an uncommon faculty for the acquisition of knowledge, his memory was extensive and accurate and he was intimately acquainted with the Latin and Greek classics." As a practitioner of medicine, he knew few equals. Dr. Rush says: "I never knew a person who had been attended by him, that did not speak of his sympathy and attention with gratitude and respect."

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Upon Dr. Morgan's return from Europe and the resumption of his practice of medicine, he introduced several innovations to the practice of the art in this country. He is said to have been the first man in America who practiced medicine separate from surgery wholly from choice; in other words he was the first to specialize. He also tried to institute the practice of prescription writing and even went so far as to import from England an apothecary especially trained in this art. This proposal was not accepted by the medical profession with enthusiasm until some years later when several physicians with continental training joined Morgan in this practice.

An incident outside the field of medicine is an example of his acceptance and promulgation of progress in any form. It is a well established tradition in Philadelphia that he carried the first umbrella in America and, in spite of the fact that crowds followed him on the streets, he continued the practice until it was no longer a novelty.

In addition to being a scholar and organizer, Dr. Morgan was interested in other things. He was a rich man and collected works of art and a fine library, all of which were destroyed by the British in the Revolution. He was also a writer of some note, as is evidenced by his works: "The Reciprocal Advantages of a Perpetual Union between Great Britain and her American Colonies," and "An Account of a Pye Negro Girl and Mulatto Boy," as well as "A Recommendation of Inoculation According to Baron Dinsdale's Method." Morgan was always dressed in the height of fashion and, in fact, often set the style for the masculine dress of the times. He was meticulous in his habits and of impeccable moral character.

Of Morgan's marriage, little is known. He married Mary Hopkinson in 1765 and they spent a compatible life until her death in 1785. There was no issue.

Now comes the period of Morgan's life that brought tireless effort with no reward but bitter disappointment. That period is the one that follows Dr. Benjamin Church's conviction of treason and the appointment of Morgan as his successor as medical director of the Continental Army in 1775. He joined the army at once, going directly to the front. Here he found a deplorable state of affairs. The Medical Corps was chaotic.

Morgan set about restoring order, but the old regime had set such a bad precedent that at every turn he was met with insubordination and lack of cooperation. He worked diligently, however, accomplishing much in spite of the obstacles he encountered. Although he perhaps handled the Medical Department of the United States in as efficient a manner as was feasible at the time, there were insubordinates who, at the slightest opportunity, were ready to deride him. An example of his tact and willingness to cooperate is seen in the case of Stringer, who was one of Morgan's subordinates. Stringer's affairs were in such confusion that he cauld not handle them in an efficient manner. Morgan, worried as he was with the complications of his own department, took over, straightened and rearranged matters so that Stringer could again proceed on a working basis. Stringer was not grateful, as he should have been, but continued to make trouble for While Morgan was the nominal Morgan. head of the department, he was not so in practice, for his subordinates went over his head to Washington. This fact, with the reports of inefficiency, led Washington to believe that Morgan was not as competent a director as he might be. Due to lack of finances, petty jealousies and intrigues, Morgan was finally dismissed in 1777. William Shippen, a former friend and colleague of Morgan, was appointed in his place. This estranged Shippen and Morgan, and their friendship was never renewed. Indignant because of his dismissal, although it was an honorary one, Morgan wrote his "Vindication," in which he demanded a court of inquiry to entirely free him of suspicious ac-This paper is full of information on the existing conditions in the army and the conduct of the Medical Staff. Although he was publicly vindicated, he was broken in spirit and always thought that he had been unjustly treated. His friends, and those who realized the value of his work, however, did not hesitate to express in positive terms their faith and trust in him. "As Director General of the Army," says Harvey Brown, "Dr. Morgan evinced great administrative ability, untiring industry often under the most discouraging circumstances, a most amiable and exemplary tenderness toward the sick and a strict tenacity for his own dignity and the rights of the Corps of which he was chief. . . . When he had finally gone from it, the army found how great a mind and true friend had been lost to its ranks; and all, from the commander-in-chief to the junior subaltern, united in their testimony before the congressional committee to relieve him from the aspersions cast upon his character by the malevolence of his enemies."

"The man who took Church's place was perhaps the most eminent American physician of his generation: John Morgan of Philadelphia."

"When we come to consider men and measures in the surgery of our Revolution, these names stand out conspicuously, all Philadelphians: Morgan, Shippen, and Rush."

Morgan, embittered by his unjust dismissal, says, "If it would have answered any valuable purpose; if the sacrifice of my life would have saved my country, I could have cheerfully offered it up. I shall not say so of my honor."

In the years from 1773 to 1783 Dr. Morgan was physician to the Pennsylvania Hospital, where he was admired, loved and respected. Because he had not been consulted in the matter of the free treatment of venereal diseases, Morgan resigned with the tart remark: "to devote their time or attention to the cure of diseases brought on by concupiscences without fee or reward, tends rather to the growth than the diminution of immorality."

After his dismissal from the army in

1777, nothing remained for him to do but to retire to private life and practice. Indeed, the hardships of campaigning had proven almost too much for him and he never entirely recovered his health or took any active part in affairs. He died October the fifteenth, 1789, at the age of 54, and was buried in St. Peter's Churchyard in Philadelphia.

A tablet in the Main Hall of the Medical Laboratories commemorates him.

Erected
to the
Memory
of
John Morgan, M.D., Edinburgh
William Shippen, M.D., Edinburgh
The First Faculty
of this
The First Medical School
in
North America
1765
Erected by the Medical Class
of 1907
June 19, 1907.

"It is an interesting character; not great certainly, as Washington was great, but earnest, highly intelligent, far-seeing, laborious, zealous, faithful. Sensitive, too, which he could ill afford to be. Nearly heartbroken by ingratitude, rendered somewhat peevish, perhaps, by trial and disappointment, as his "Vindication" shows, but always loyal to the cause and to his chief. His is one of the best names in our annals—a name too little known today; almost ignored by history."

MICHIGAN'S DEPARTMENT OF HEALTH

C. C. SLEMONS, M.D., Commissioner LANSING, MICHIGAN

ACCIDENTAL DEATHS IN MICHIGAN IN 1930

The number of deaths due to accidents in Michigan during 1930 was 3,805, a decrease of 236 from 4,041 deaths in 1929, which is a reduction equivalent to 5.8 per cent. The ratio of accidental to total deaths, however, was slightly greater. In 1929, accidental deaths comprised 7.2 per cent of the total deaths, whereas in 1930 they represented 7.4 per cent.

By far the greatest number of accidental deaths were due to the use of the automobile, there being a total of 1,560 deaths attributable to this cause as compared with 1,541 in 1929. Of this number, 1,443 were caused by automobiles alone; 90 were the re-

sult of railroad and automobile collisions; and 27 to street car and automobile collisions, the term street car including the interurban, few of which remain in Michigan

The most important other cause of accidental deaths was falls; 638 deaths were due to this cause, as compared with 630 in 1929. Under the new classification which was in use in this office in 1930 (Fourth Decennial Revision) it is possible to get a closer division as to the type of accident. It is observed that in 81 cases death was caused by falling down stairs; in 20 cases it was the result of a fall during building

operations; and in 537 cases death was caused by a variety of other falls. Many of these, particularly of old people, were due to falls on the ice.

Next in importance as a cause of accidental death was accidental drowning, there being 405 deaths during 1930, as compared with 432 in 1929.

The hot, dry summer of 1930 is reflected in the fact that there were 77 deaths due to excessive heat, as compared with 46 in 1929.

Accidental burns was the cause of 197 deaths, as compared with 212 in 1929. Railroad accidents were responsible for 132 deaths, as compared with 182 in 1929.

It is understood that the entire list here given includes only accidental deaths and does not include homicides or suicides. It is, of course, always possible that a percentage of the suicides or homicides will be classified as accidental if there is no means of determining whether or not foul play was involved. The department is, obviously, dependent very largely upon the coroners' findings in these cases.

Below will be found a list of the causes of accidental deaths for 1930 and 1929. As stated above, under the new classification there is a closer subdivision of these causes but the comparison has been made as closely as possible.

ACCIDENTAL DEATHS IN MICHIGAN IN 1930

Classif	n-		
cation		Year	Year
No.	Cause of Death	1930	1929
177.	Poisoning by Food	. 12	23
178.	Accidental Absorption of Poison-		
	ous Gas	. 109	127
179.	Other Acute Accidental Poison-		
	ings		54
180.	Conflagration		109
181.	Accidental Burns		212
182.	Accidental Mechanical Suffoca-		
	tion		64
183.	Accidental Drowning		432
184.	Accidental Traumatism by Fire-	. 105	102
	arms	76	73
185.	Accidental Traumatism by Cutting		,,
	or Piercing Instruments	. 6	11
186.1	Accidental Traumatism by Falling	. O	11
20012	Down Stairs	. 81	
186.2	Accidental Traumatism by Fall in		****
200,2	Building Operations		630
186.3	Accidental Traumatism by Other		030
200.0	Falls	. 537	
186.4	Falls	. 557	****
400.7	ing, Landslide		8
188.	Injuries by Animals	. 24	27
189.	Injuries by Animals	. 24	
190.	Hunger or Thirst	. 3	6
191.	Excessive Cold	. 21	27
192.	Excessive Heat	. 77	46
193.	Lightning	. 6	5
195.	Accidents due to Electric Cur		40
	rents	. 42	48

194.	Other Accidents 119 1	50
201.	Accidental Traumatism in Mines	
	and Quarries	46
202.	Accidental Traumatism from Agri-	10
202.		
	cultural Machinery 14	
203.	Accidental Traumatism from Ele-	
	vator Accidents	
204.	Accidents from Machines used in	
201.	Degraption 2	
205.	Other Machinery Accidents 45	89
206.	Railroad and Automobile Col-	
		01
207.		82
208.		22
209.	Other Street Car Accidents	55
210.	Automobile Accidents1,443 1,4	18
211.	Motorcycle Accidents 12	11
		11
212.	Other Land Transportation Ac-	
	cidents 29	41
213.	Water Transportation Accidents 3	
214.		24
WIT.	Till Timisportation recidents 20	~ T
	TD + 1	41
	Total3,805 4,0	
	W. I. V. D.	

STAFF CHANGES

C. D. Barrett, M.D., C.P.H., for the past four years county health commissioner of Lorain County, Ohio, became director of the bureau of epidemiology of the Michigan Department of Health on March 16. Dr. Barrett took his training in public health at Johns Hopkins University, and comes to Michigan with nine years' experience in administrative work.

Mr. W. H. Fraser resigned from the staff of the law enforcement division of the bureau of epidemiology on April 1 to return to the pastorate of the First Presbyterian Church of Centerville. Mr. Fraser left Centerville fourteen years ago to come to the Michigan Department of Health when the wartime program for venereal disease control was started. His work in lecturing as well as in investigation and law enforcement has given him a wide acquaintance among Michigan physicians.

ENGINEERING NOTES

Work at the Ypsilanti State Hospital is progressing steadily. Plans and specifications for the sewage disposal system have been completed and bids were accepted early in April. Construction work will be started as soon as possible.

A new filtration plant at Grosse Pointe Farms went into service the middle of April. The plant has a capacity to serve not only the village of Grosse Pointe Farms but neighboring municipalities as well, at a saving in expense over the present system of securing water from Detroit.

A new filtration plant is to be built at St. Joseph and plans have already received preliminary approval from the bureau of engineering.

CHILD HYGIENE FIELD NOTES

A diphtheria prevention campaign is being carried on in Marquette county at the present time, with the immunizing being done by the local physicians in the various communities. Annette Fox, R.N., Nursing Director of the Upper Peninsula, is doing the necessary organization work and assisting the physicians at the time the toxin-antitoxin is given.

At the little village of Gwinn, Miss Fox reported that fifty-seven preschool children were brought in for the treatments. The superintendent of schools is anxious that this be done annually in the lower grades and that the entire school be kept as nearly as possible 100 per cent immune.

Miss Nell Lemmer, R.N., staff nurse, has been loaned to Gratiot County for a number of months to demonstrate the value of county health work. Miss Lemmer began a diphtheria immunization program in Alma schools the week of March 16 and ordered toxin-antitoxin sufficient for 2,000 pupils. Miss Lemmer hopes to organize diphtheria prevention campaigns in other parts of the county before the close of the school year. The immunizing is done by local doctors assisted by Miss Lemmer.

Women's classes on prenatal, infant and child care were completed by Dr. Ida Alexander in Jackson, March 20. Her next series will be carried on in Allegan county.

A series of women's classes in Calhoun County was completed by Dr. Muriel Case on March 13. Since this time she has been teaching Child Hygiene to County Normal Training classes. Her next series of women's classes will be in Van Buren County.

Child care classes in rural schools were completed by staff nurses of the State Health Department in the following counties: Shiawassee, Macomb, Mecosta and Lapeer. Classes are now being conducted in Clare, Isabella, Tuscola, Sanilac, St. Clair and Ingham Counties.

MOUTH HYGIENE

The Bureau of Mouth Hygiene is keenly interested in a plan undertaken by the Michigan State Dental Society, through its educational committee, which promises to be of far-reaching importance.

This plan is to provide extension courses in dentistry in an effort to carry, direct and without cost to its membership, reliable information covering the more important problems with which the profession are now finding themselves confronted.

Of special concern to the Bureau of Mouth Hygiene, and a great help in its work, is the series of lectures and clinics on children's dentistry now made available by this plan.

W. R. D.

THE THREE HORMONE TESTS FOR EARLY PREGNANCY

A clinical evalutation of various tests as represented by Charles Mazer and Jacob Hoffman, Philadelphia (Journal A. M. A., Jan. 3, 1931), is as follows: The ovarian hormones; the sex-maturation hormone of the anterior pituitary gland; Aschheim-Zondek test; the female sex horome test, and the Siddall test. The authors conclude that the hormone tests for pregnancy are of distinct clinical value in the diffential diagnosis between early pregnancy, normal or ectopic, and pathologic conditions associated with amenorrhea or irregular uterine bleeding. The female sex hormone test is the more reliable when positive in that the proportion of error in nonpregnant women is less than 4 per cent. A rigid interpretation of the vaginal spreads and the elimination of abrupt and delayed reactions reduce

this element of error considerably. The inability of the genital tract to utilize the small quantity of female sex hormone present in the circulating blood in women with ovarian deficiency results in its elimination by the kidneys; hence the occasional false positive reaction by the female sex hormone test in these cases. The compensatory pituitary hyperfunction accompanying ovarian deficiency is responsible for the comparatively large number of false positive reactions in the Aschheim-Zondek and Siddall tests. The tests performed individually render a positive reaction in about 75 per cent of early pregnancies; when combined, the percentage of positive reactions is increased to 90, by virtue of one of the three tests showing a positive reaction. A negative finding does not exclude the possibility of pregnancy; repeated negative reactions are fairly reliable.

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COLONEL BELL BURR, A.M., M.D., F.A.C.P.

By H. E. RANDALL, M.D. FLINT, MICHIGAN

"With affection and appreciation to
Doctor Colonel B. Burr
From his fellow members of the Michigan State
Medical Society"

This inscription engraved on the silver drinking tray set presented to Dr. Burr last year at Benton Harbor, expresses truly the high regard in which Dr. Burr was held by his profession.

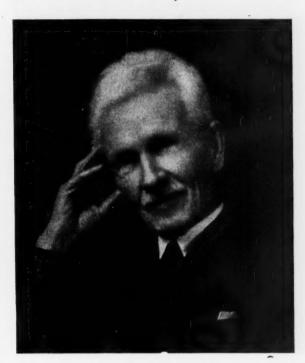
He had then finished the first volume of the Medical History of Michigan and was fearful lest he should be taken before he could complete the second volume, a work on which he devoted full time for four This was a labor of love. Dr. Burr loved his profession and was anxious that he might be permitted to present it as a token to the devoted men who had undertaken as a life calling the relief and alleviation of human suffering. He was supremely happy in this task, and he hoped that his cataracts would not render it impossible. Dr. Burr never assumed responsibility lightly but threw his whole strength and energy into whatever he undertook.

Earnestness and sincerity were his two most prominent traits. His last illness was precipitated by his sense of obligation. He took Senator Peter Lennon's place when the Senator was unable to keep his appointment in a public debate on Capital Punishment. Dr. Burr had very decided views on capital punishment and the crime wave, and was not unwilling even in failing health to meet the opposition.

Dr. Burr attended the public schools and the Olds and Rorks Academies at Lansing. He was a learned man, being a life-long student and one who read French, German, and Latin authors. His large library was practically given to the Flint High School, which bought the land of the Oak Grove Sanitarium upon Dr. Burr's retirement. During the last few years after reading a book, he passed it on to his friends as a present.

His faithful attendants in the institution were substantially remembered by him upon his retirement, and some own their homes today because of his generosity. Oak Grove during the time of his professional activity

had a national reputation for mental cases. Dr. Burr never made any regulation that he was not willing to follow himself. An incident told me by an attendant illustrates this: While Dr. Burr was talking to a patient the latter was stamping his heel upon Dr. Burr's foot. There was in Dr. Burr's face no evidence that he was aware of the patient's action. When the patient found he had not diverted the doctor's attention, he listened to what the doctor had to say.



DR. COLONEL BELL BURR

Dr. Burr started out as a messenger clerk in the Michigan State Legislature, was cowboy for a time, then a mail clerk until he studied medicine.

While driving Dr. Burr back from the last state medical meeting he told me a story which he said taught him a lesson that he never forgot. One day when he was a mail clerk at Lansing, he asked Mr. Bingham, the postmaster, if he might go out for a walk to see if it would relieve his headache. The postmaster said yes, and asked him if he would mind taking a package to Mrs. Bingham. A few days later he had another headache and again asked permission to talk a walk. This time the postmaster gave him another package to deliver, and remarked that he hoped that he would deliver it with better grace than formerly. Young Burr "Did I not deliver the package?" "Yes, said the postmaster, you did, but the expression on your face was sufficient to let anyone know that you did not consider yourself the postmaster's messenger-boy." Dr. Burr says: "This experience has aided me immensely all my life, and many times I have listened to bores without flinching. It taught me courtesy, and also that all labor is reputable."

Dr. Burr was a striking figure, erect with a fine shaped head, his thick white hair brushed straight back, and a pair of piercing black eyes. His manner was always courteous and his bearing that of the true gentleman. One day in passing a rodeo advertisement, he said: "I was able at one time to do all those things." Three years ago while on the way to a meeting of the American College of Physicians, he was taken sick, was operated upon, and recovered from a suppurative appendicitis.

Dr. Burr had a keen knowledge of mankind, of its foibles and its emotions, and was always considerate of the thoughts and feelings of others. He was tolerant but hated hypocrisy, and was always frank in his opinion when expressed.

In his profession of Psychiatry he was a national figure. His "Practical Psychology and Psychiatry," now in the sixth edition, is one of the best known in its field. Dr. Burr always insisted that it was impossible to define words because other words must be used and hence further definitions are necessary, but his clearcut definitions of insanity, illusion, delusion, and hallucination are classics in Psychiatry.

He was the author of many papers on the subject of nervous and mental diseases, and was probably the first to study the symbolism of the insane. One of his addresses was on the doctor in fiction. Dr. Burr's style was always clear and his command of English masterful. He had no difficulty in conveying to his hearers his meaning.

Dr. Burr's mind was many-sided, as author, historian, and alienist, but with all his learning, he was a true friend, and being a true friend he had a great host of friends. The medical profession has lost one of its great lights, humanity a friend, but he has bequeathed to posterity a heritage of medical lore which in the centuries to come will be a mine for the future student of history.

I wish my feeble pen had power to portray this great man, the courteous, learned, thoughtful friend who will be with us no more except in memory. About a year ago we discovered that he had a large abdominal aneurism and we knew that honors richly deserved must be hurriedly given. At the State Medical meeting banquet given in his honor, some of us knew that this would be his last, but his work is finished and finished well.

Dr. Burr died in the early morning of April 11, 1931, at his apartment in the Hotel Durant, at Flint, Michigan. Ten days before, he had an attack of apoplexy following a debate on Capital Punishment. The funeral services were held at St. Paul Episcopal church and the burial was in Glenwood Cemetery, Flint. He was born in Lansing, November 3, 1856, was 74 years of age, and had served as Medical Superintendent of the Eastern Michigan Hospital at Pontiac and Medical Director of the Oak Grove Sanitarium for nervous and mental diseases. He was graduated from the College of Physicians and Surgeons in New York, in 1878, and retired from practice in 1920.

Dr. Burr served as president of the Michgan State Medical Society in 1910, after having served on the Council as Chairman for several terms. He was a Fellow of the American College of Physicians, and a member of the American Neurological Association. He had been secretary, vice president and president of the American Psychiatric; was a member of Societe Medico Psychologique of Paris; had served on the Michigan State Board of Registration in Medicine. He was an honorary member of the Genesee and Michigan State Medical Society and a Fellow of the American Medical Association, and had been president of the Detroit Society of Neurology and Psychiatry and the Detroit Academy of Medicine.

Last September the University of Michigan conferred on him the honorary degree of Master of Arts at the opening of the Medical Department.

He leaves a wife who is an artist of repute, and a sister, Mrs. J. D. Phelps, of Lansing. A daughter, Miss Earnestine Randal Burr, died in young womanhood.

Dr. Burr was a member of the Detroit Club, a 32nd degree Mason, a Knight Templar, Shriner, an Elk, a member of Flint Country Club, Wranglers, and Flint Shakesperian Club, and was an honorary member of the Flint Rotary Club.

Besides a busy professional and social

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life he made several trips to Europe and had traveled extensively throughout the United States. He has left us a "Practical Psychology and Psychiatry," a two-volume "Medical History of Michigan" and a small volume of "Sayings of a Septuagenarian."

"Philosopher and peasant are alike completely ignorant of the remote past and of the entire future—of beginnings and of the end."

"Well done good and faithful servant, enter thou the joy of the Lord."

He has gone to join Kay, Kiefer, Manton, Longyear, McGraw, Vaughan and the other great medical lights and leaders whose memories it gave him a keen delight to honor.

FROM THE PRESIDENT ELECT AND FELLOW TOWNSMAN

The practice of medicine owes much to many men. The surgeon with his manual The laboradexterity and good judgment. tory technician with his dogged determination to do honest research work along original lines. The internist with a broad outlook and a keen sense of observation, tempered with tact, patience and human sympathy, have all added their share in bringing Medicine to the high plane it now occupies. An outstanding figure in this field of endeavor was Doctor Colonel Bell Burr. He was possessed of that rare combination, a keen analytical mind and a most happy faculty of expressing his thoughts in forceful language.

He was a most interesting man of rare attainments; an outstanding figure in his chosen profession; a financier of no mean ability; a writer of note along many lines; a man who had the courage of his convic-

tions, at all times and under all circumstances; and with all one of the kindliest men it has ever been my good fortune to know. Conscientious to a fault, one of his last thoughts voiced a querying doubt of "His work being well done."

His death removes from our ranks a wise counselor and a most lovable companion. His memory will ever be an abiding inspiration to his sorrowing friends.

CARL F. MOLL.

RESOLUTIONS ON THE DEATH OF COLONEL B. BURR, M.D.

In the ripeness of years, everlastingly endeared to a multitude of friends, Colonel B. Burr died on April 11, 1931. Dr. Burr has gone

As a distinguished member, Ex-Councilor Past-President and Author of our Michigan Medical History, Dr. Burr served faithfully, earnestly, aggressively and efficiently. He contributed of time and self in unstinted measure. He led, he counseled, he inspired to such degree that he enriched and enhanced not only the interests of our profession and its members but also that of the people and the state.

Possessed of a personality that was unique, a mind that was discerning, a character that was of outstanding integrity and a friendliness that induced confidence, he reflected in high degree the ideal attainments of a man, a physician, a citizen and a friend. Therefore:

physician, a citizen and a friend. Therefore:
Be It Resolved: That there be hereby recorded in the records of the Michigan State
Medical Society this recognition of his life
and his contributions to our Society, and

and his contributions to our Society, and
Be It Resolved: That we extend to Mrs.
Burr and his sister our heartfelt sympathies
and condolence. Assuring them that we
mourn with them, and that they as well as
we find solace in the sacred memories that
his life bequeathed.

B. R. CORBUS
J. D. BRUCE
F. C. WARNSHUIS

By action of the Executive Committee of the Council on April 15, 1931.

Courses for Graduates

The Department of Post-Graduate Medicine The Michigan State Medical Society

Announce

The Third Annual General Practitioners' Course to be given at the Receiving and Herman Kiefer Hospitals, Detroit, June 15 to 27, 1931

Realizing that the responsibilities of most physicians in general practice require a working knowledge in all fields of Medicine, this Course has been arranged to afford the widest possible opportunity to come in touch with the newer methods of diagnosis and treatment.

While the subjects are scheduled so that those especially interested in Medicine or in Surgery may avail themselves of one week's instruction in either of these fields, the two-weeks' period is recommended as much more adequate for a well-rounded review.

The Course will consist of 60 hours of instruction, the daily schedule being from 8:00 A. M. to 1:00 P. M.

In addition to the Practitioners' Course, periods of one week each have been arranged in the following divisions, some of which are given upon the completion of the two-weeks' period and others at intervals throughout the year:

> Mental Hygiene Fractures

Growth and Development Proctology

Tuberculosis Serology

Roentgenology Cardiology

Gastro-enterology Physical Therapy

Allergy Laboratory Technic

Metabolic and Nutritional Diseases (adults)

Diseases of Blood and Blood-forming Organs Gynecological Pathology, Gross and Microscopical

Infectious Diseases of Infancy and Childhood

Infant Feeding and Nutritional Diseases of Childhood

For further information, address

Director of Post-Graduate Medicine University Hospital, Ann Arbor, Michigan

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Contributors are responsible for all statements, conclusions and methods in presenting their subjects. Their views may or may not be in agreement with those of the editor. The aim, however, is to allow authors as great latitude as the general policy of The Journal and the demands on its space may permit. The right to reduce in length or to reject any article is reserved. Articles are accepted for publication on condition that they are contributed solely to this Journal.

All communications regarding advertising and subscriptions should be addressed to F. C. Warnshuis, M.D., 2642 University Avenue, St. Paul, Minnesota, or Suite 1508 Grand Rapids National Bank Bldg., Grand Rapids, Michigan.

MAY, 1931

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor them-selves, by way of amends, to be a help and ornament thereunto."

-Francis Bacon

EDITORIAL

POST-GRADUATE MEDICINE

Elsewhere in this number of the Journal will be found the tentative program of the courses for graduates to be given by the Department of Post-Graduate Medicine of the University of Michigan and the Michigan State Medical Society. This, which is the third annual general practitioners' course, as announced, will take place at the Receiving and Herman Kiefer Hospitals in Detroit from June 15th to June 27th.

As stated in the quotation from an address by Dr. Christian which appears on the cover of this number of the Journal, there is no such thing as standing still; we either

progress or we fall behind in the race. One may take his choice. To do the latter all one requires to do is to do nothing at all. Medical books are said to become obsolete within five or ten years from the date of publication. If this be the case how obsolete do the general practitioner and specialist become who do not submit their knowledge to constant revision?

The courses here offered make it possible for one to keep abreast with the more recent advances in the subjects in which he is interested, with the minimum loss of time from his work. Furthermore they come at a time when we should think of vacations. To avail oneself of one or more short intensive courses is really a vacation. The doctor observes, studies or he listens to a clinical lecture but he has not the responsibility of the condition of the patient. After all it is responsibility and not work that wears and thus makes demands of us for recreation from time to time.

NEPHROSIS

The term nephrosis as used by many writers has been responsible for much confusion and loose thinking. The etymological sense of the word is wrongly applied, but, like many other words, usage has forced its acceptance. In current literature one finds its meaning limited to what has been called pure lipoid nephrosis, a primary degeneration in the tubules with well defined clinical symptomatology. Another use of the same term is less restricted and may include many types of degenerations to which appropriate names are given to indicate the etiology or an accompanying disease.

It was doubtless the purpose of Friedrich Müller, who introduced the term nephrosis in 1895, to use a word for contrasting and differentiating renal degeneration from nephritis, a term meaning primarily inflamma-tory reaction. Henry Christian has taken occasion to point out that "as clinicians we may be unable during life to predict accurately whether the pathologist is going to find more or less nephrosis or less or more nephritis." This same author after stating his views finds no justification for regarding nephrosis as other than a form of Bright's disease but his studies were confined to adults, children being purposely omitted on account of lack of experience. He quotes

Baehr as saying he had seen but one adult case of the pure type but in children pure nephrosis had been seen frequently and was usually superimposed upon chronic pneumococci infections in the upper respiratory tract.

It must be remembered that one type of renal lesion becomes engrafted on another, making it impossible to tell which has been primary.

In the pure primary lipoid nephrosis with the degeneration persisting over a long time and giving an adequate and characteristic symptomatology, the terminal event may frequently be an infection. The primary pathology may have been an infection and the terminal renal change degenerative, giving typical clinical symptoms. To the pathologist the diagnosis is nephrosis. To the clinician with the primary infection in mind, the diagnosis is nephritis.

The recognition of nephrosis as a renal disease entity has been sufficiently affirmed now by a galaxy of writers such as Müller, Volhard and Fahr, Munk, Epstein, Rigler and Rypins, Bell, Clausen, Davison and Salinger, Boyd, DeRenzende, Marriott, Aldrich, Bennet, Rabinowitch, Davidson and many others.

The etiology of nephrosis in some cases is unknown. In children sinus infections, pneumococcus infections, metabolic deficiencies have been prominent causes. Among adults, syphilis and other infections have been assigned as the chief etiologic factors. Epstein's theory that the cause is extra-renal has been staunchly supported. Circulating toxic substances from different sources are

undoubtedly the immediate cause. The clinical diagnosis of lipoid nephrosis may be successfully made from the presence of the following criteria:

- edema, anasarca, and effusion in the serous cavities
- 2. marked albuminuria (sometimes 15-20 gm., the equivalent of 12 whites of eggs daily)
- 3. marked increased in the cholesterol content of the blood (sometimes 800 mg. per 100 c.c.)
- 4. reduction in the total protein of the blood serum
- 5. inversion of the normal ratio of albumin to globulin
- 6. doubly refracting lipoid bodies in the urine

- 7. oliguria and high specific gravity
- gradual onset, protracted course
- 9. normal blood pressure and heart, normal N. P. N., normal optic fundus.

Of the above features of this disease the existence of edema and albuminuria and the absence of cardiovascular system involvement are most important.

The pathology of the pure type of nephrosis exhibits kidneys at first large with pale, cloudy, thickened cortex. The normal markings are somewhat obscured, some opaque spots may indicate lipoid deposition. The tubules are widened and contain exudated albumin and degenerated cells. In late stages the kidneys may be contracted.

From the classical type of nephrosis certain deviations occur that belong nowhere so truly as in association herewith. Amyloid disease appears essentially similar in many features. In 1916 Munk classified the following types according to the nature of the degeneration observed: albuminous, fatty, lipoid, necrotic, hyaline; amyloid, vacuolar, glycogen (diabetic). Bell calls the nephroses degenerative nephropathies and designates two types: Simple and Atypical, under the simple he lists nephrosis due to chemical poisons; bacterical poisons and jaundice. In the atypical he includes the nephrosis of pregnancy and the amyloid nephrosis.

It is important to emphasize that the term nephrosis shall direct the mind to a dominating renal tubular degeneration with associated edema and albuminuria without at first cardiovascular involvement, also to differing etiology and progression of the disease which produce variations in the kidney from large white size to the contracted form. The symptoms may be expected to change as complications obscure the primary conditions.

JAMES E. DAVIS.*

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- *Dr. Davis is Professor of Pathology at the Detroit College of Medicine and Surgery. He has made very important studies on renal pathology. The editor takes this opportunity to express his gratitude to Dr. Davis for this carefully written editorial on Nephrosis.

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THE PASSING OF DR. BURR

News of the death of Dr. C. B. Burr of Flint on April 11th came as a shock to his numerous friends in the medical profession. Dr. Burr was active and apparently in his usual health up to within a few days preceding his death, when he was seized with a stroke while engaged in a public address. As is well known, he had retired from the active practice of his specialty as psychiatrist for a number of years, though the last four or five years were largely taken up with the writing, editing and compiling of the Medical History of this State, which he saw through to completion a few months ago. We have noted from time to time in the columns of the Journal the progress of this work, as well as the recognition of his labors by the profession and also by the University of Michigan, which conferred upon him the honorary degree of Master of Arts last October. Both these honors Dr. Burr considered sufficient reward for his efforts. He strongly opposed the inclusion in the work of a biographical sketch of himself, a matter which was strongly urged by his friends. However, the Medical History is his monument. Someone has said that the best of a man is his book. versatile in conversation as Dr. Burr was, the best of him is to be found in his writing. in which he exercised meticulous care even to the checking up of commas, as every editor knows. He has made many trips to Detroit and to Ann Arbor during the progress of the History to verify dates or to obtain the correct spelling of a name. If we may take liberties with a famous epitaph to make it applicable to Dr. Burr it would be, Si quaeris monumentum lege historiam medicinam Michiganensam.

To the last Dr. Burr maintained a keen and lively interest not only in the profession of which he was such a distinguished member, but in the civic life of his home city as well. To those who were privileged to know him intimately he exhibited all those qualities of mind and heart which go to make the truly cultured gentleman. He was a true friend who never neglected to recognize a

favor with a grace of commendation which few can command.

It was the writer's privilege to know him intimately about five years but these were years of the closest friendship in which Dr. Burr proved a frequent correspondent and visitor of rare charm who always left one his debtor. He was broad in his sympathies, one who may, to quote Homer, "Be (considered) a friend of man who lived in a house by the side of the road." He was optimistically philosophical in his outlook upon life and possessed a whimsical humor that is as rare as it is a desirable quality in man. To Dr. Burr it was inborn.

"He scarce had need to doff his pride or slough the dross of earth,"

E'en as he trod that day to God, so walked he from his birth,

In simpleness and gentleness and honor and clean mirth."

The medical profession has lost a true friend and benefactor whose place cannot be filled. In this the hour of her bereavement, Mrs. Burr, whose loss is irreparable, has the sympathy of the profession that was so dear to her husband's heart.

"As life runs on the road grows strange, With faces new, and near the end."

The milestones into headstones change
'Neath everyone a friend."

ULTRA-REFINEMENTS IN DIAGNOSIS

In some instances diagnostic methods have become a matter demanding so much skill in their performance that their value, owing to the risk assumed, becomes a matter of serious question. A diagnostic method that is fraught with a possibility of great danger to the patient is, we think, not justifiable. We have in mind a method of radiography of blood vessels made possible by the injection into the blood vessels of a 25 per cent solution of sodium iodide. One purpose of the procedure among other things is the exact localization of cerebral tumors. The pioneer in this field is a physician, Egas Moniz, of Lisbon, who presented a paper on Arterial Encephalography which appeared in 1928. More recently two Japanese workers have repeated this diagnostic method. Among the dangers of the method are in the first place its painfulness, which makes necessary general anesthesia; epileptiform attacks and two cases of hemiplegia have been reported following injections. Among the untoward results reported by others are

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pain, gangrene and iodism following the injection of the sodium iodide solution.

The method has also been used for the purpose of studying the condition of the circulation in the limbs in cases of gangrene, fracture and aneurism. The injection has to be made with the patient on an X-ray table, thereby facilitating immediate radiography, which is absolutely necessary if the peculiar method is to have any diagnostic value at all. In fact, the radiogram must be made the instant of the injection, inasmuch as the solution becomes rapidly dispersed. It is needless to say that in this, as in any other case in which injections are made into the body tissues, strict asepsis is necessary; therefore the X-ray apparatus must be in the operating room. This diagnostic method known as arteriography will require much farther refinement as well as to be brought well within the confines of safety and comfort before its general use will be justifiable.

MEDICAL INSURANCE

The medical profession is awakening to the fact that they have been making a contribution to society out of all proportion to their financial ability, and that the burden should be borne by those who receive the benefit to a greater extent than has ever been the case in the past. Dr. Charles G. Heyd in a recent address before the New York Academy of Medicine, estimated that the annual contribution of the medical profession to society is approximately \$350,000,000. The remedy suggested is some form of insurance in which the costs of medical care might be distributed over a period of time to enable patients to meet them.

Commenting on some form of solution of the medico-social problem the *New England Medical Journal* offers the following sage advice:

"While it is encouraging to learn of the application of practical ideas to the economic problems before the medical profession and society at large the fundamental needs are, first, the development of unanimity in the profession in entering upon constructive study of these questions, and, second, leadership which will not only present clearly defined plans but will bring to bear that degree of mental control over the divergent interests which will result in effective consideration.

"As it is now the great question seems

to be, is not the medical profession divided in its conceptions of the problems before it and is it not waiting for some Moses to lead the wandering tribes out of the desert?"

If we are to accomplish anything worthwhile the profession must unite on some one plan even if in the opinion of many of its members it may not appear perfect.

INSURANCE CERTIFICATES

During the last three years a persistent effort has been made by the Civic and Industrial Relations Committee to arrive at some definite understanding with the Health and Accident Insurance Companies regarding the payment of a fee of not less than \$2.00 for filling out each preliminary and final claim proof.

Numerous committee meetings, and a conference with representatives of a number of the outstanding insurance companies, have been held and every angle of the situation has been carefully analyzed. The insurance companies strenuously object to the plan and argue that Michigan represents only a small section of the medical profession of the entire United States and are unwilling to concede to the demands of the profession.

Nevertheless, by its action, Michigan has created the interest and favor of other state medical societies in the question involved. The rights and privileges of the individual physician are being encroached upon by the insurance companies' continual insistence that the filling out of claim blanks is only a part of the physician's professional obligation to his patient.

This whole question is one which affects every physician in the United States. It affects their income, their time and their convenience. There are approximately 145,000 physicians in the United States. From the statistical standpoint if only one insurance blank were filled out yearly, by each physician, it would mean a total sum of \$290,000, which the physicians are saving for the insurance companies. Every physician fills out at least ten to twenty of these blanks a year, which means that over a million dollars a year are being contributed to the incomes of the insurance companies. There can be no question that the profession is justified in the stand which they have taken.

It now becomes quite apparent that the question is one for the consideration of the American Medical Association, and the

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Michigan delegates are proposing a resolution at the meeting of the Association at Philadelphia in June, which covers this subject from a national viewpoint. Until such action is taken by the American Medical Association as is deemed advisable, the physicians of Michigan are urged to adhere strictly to the import of the Resolutions and refuse to fill out blanks for the insurance companies until advance payment of the fee has been arranged.

H. S. Collisi.

MEDICAL KNOWLEDGE GROWS

Dr. W. J. Mayo is reported to be opposed to the long premedical training demanded of medical students. He is alleged to have said that the period of from two to four years University training required before the student begins his medical course dulls the mind and leaves the physician at a comparatively advanced age of thirty years before he begins to practice. There is a great deal of truth in these statements. It is unfortunate that, with such an extensive training, the physician has such a comparative short time, thirty to thirty-five years, for his life work.

We are also inclined to the view that much of the academic and other courses in medicine might be materially shortened to advantage (we will not say which). Medical knowledge has become so voluminous within the past two decades that it is impossible for one mind to master it all. Why attempt it? Why not educate the student to think, to reason; rather than try to cram his head with fast accumulating knowledge? Will not the intelligent person make a better doctor than he who is capable of mastering the various fields of knowledge?

Much has been said about methodical and intensive training in the specialties; with the development of medical knowledge there was never greater need for such training. After a broad foundation in the principles of medical science, let the graduate choose his specialty and train in it as intensively and as thoroughly as circumstances permit.

And there is another phase to professional education. The demands on a young man's time are so great that he can do but very little to help himself financially. In fact the self-supporting student is not en-

couraged to enter upon a course of study in any of our best institutions of learning. Circumstances are such that the University is not wholly to blame. The father who worked his way through college in many instances has to work his son's way through and as a result how often we find the father and mother on the down grade of life after educating sons in some profession, when the parents should have been in a position to slacken the pace and to take life more leisurely.

AN ATTEMPT TO LEGALIZE SO-CALLED "SCHOOLS"

The chiropractic bill was passed by the House of Representatives at Lansing on March 17th with 57 members voting for the bill and 19 voting in opposition to it. Herein is a matter that deserves some study by the medical profession. There are yet fairly prominent people in this State who misinterpret the motives of the medical profession, or do not comprehend what we are driving at when we advise against the legalization of cultism. It is beyond our purpose here to rehearse to medical readers the reasons for opposing so-called healing cults. That is apparent to anyone with a medical degree. It is as apparent as the futility of endorsing a system of accounting or of engineering based upon the theory that 2 plus 3 makes 6 or that 3 multiplied by 4 is 7. The absurdity of such a proposition is not greater to the medically trained mind than the so-called principle that disease is due to misplaced vertebræ. It may be, on the other hand, that men lack discrimination when it comes to vote on a matter concerning which they have little or no interest.

Chiropractic is to all appearance a moribund cult. So why should we worry? The principal reason for apprehension is the fact that the legalization of the cult would make Michigan the stamping ground for a great many of its members left throughout the United States. It would greatly interfere likewise with the regular practice of medicine to be under the necessity of treating patients who had temporized for greater or less time with irregulars.

The strongest argument perhaps against the recognition of cults by the State consists in the fact that Michigan was the pioneer State for medical education, for many decades exacting a very high standard of med-

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ical training. Why therefore permit the practice of healing by those who do not come up to the standard exacted by the State?

THE MEDICAL HISTORY OF **MICHIGAN**

Elsewhere in this number of the Journal will be found a review of the Medical History of Michigan which, completed, has been announced several months ago as consisting of two large volumes. While this is a book that will not become obsolete in the sense of purely scientific work in medicine, it would be well if the members of the Michigan State Medical Society would avail themselves of the opportunity to purchase sets as soon as possible rather than deferring the purchase to some future time. Doctor, if you have not already procured the two volume set, communicate with Dr. Warnshuis, Secretary of the Society. price complete is \$10.00 and a set will be forthcoming.

EDITORIAL NOTES

A contributor writes us that he has revised his paper twice since first written so as to make it up to date. On submitting it to one of the national Journals he received the reply that the publication could not publish it under a year, by which time, according to the writer, it would be completely out of date again and would require another thorough revision. How medical science does move!

Lord Dawson, physician to King George V, tells a story of an Englishman supported by the "dole" who consulted his physician for some ailment. After the doctor had prescribed for his patient the latter told him that he had been offered a job the week before which would have paid him ten shillings more than he was receiving from the government. "After thinking it over carefully," said he, "I turned it down as I prefer to be independent."

An editorial in the London Lancet commenting on the nature of insects commits this biologic gem: "They [the insects] have followed in their family descent a faulty engineering model, the converse of the vertebrate plan; they keep their soft parts inside and put their hard skeletons on the outside. This, from mechanical and chemical reasons,

has imprisoned them within small limits of possible size. But we have turned our guts about and always wear them inside out: and in so doing have become the masters of our fate."

WEELUM IN TROUBLE

O! Mr. Editor, if ye hae ony sympathy or ony bowels o' compassion aboot ye, wull ye gi' me a wee bittie, for a'm sair distressed.

Ye ken a'm brocht oop afore th' ethics committee.
Din'na tell onybody.—A'm sae abashed.

A'm chairged wi writin' medical articles wi'oot

signin' ma name tae them.

Ane o' th' committee (the ane wi' th' beld heid) caught me in th' ha' an' telt me a' aboot it. He fairly rair't at me. "Weelum," he says, "Ye daumned auld skate, noo thet we hae ye in oor clutches, we'll coost ye oop oot o' a' th' medical societies. Afore we ken onything aboot it, ye wull be hae'in' yer picture took an' printin' it intae th' paper, an' ye'll be hae'in signs made, wi' letters a foot heigh, curin' a' kin's o' things in baith men an' women. Sam' wan aught tae wrang yer neck." Man,—bit he wis haird bil'd

bil'd.

Weel, Gentlemen, ah said tae them, when they ca'ed me intil th' meetin', hae ye only th' ane chairge agin me? An' man,—ye should o' seen their faces, th' astonishment o' them,—ah never see'd th' like afore.—Why, Weelum! ane o' them said, "Hae ye been doin' ony ither thing against th' bans?" Humph, ah says, ye dinna ken onything aboot me. Coom awa oop tae ma office an' ah'll gi' ye a basket o' things ye can chairge against me, a' o' which ah'll admit, sae that ye wull hae nae bother tae prove.

Weel, sir, ah filled a' their pooches wi' chairges that they micht bring against me,—hunder's o' them.

that they micht bring against me,—hunder's o' them, a' kinds o' them, young an' auld, baith afore ah was a Doctor an' aifter that, baith bad an' wicked, thousan's o' them, an' when they were ga'in awa, ah said, noo gentlemen (aye, ah ca'ed them gentlemen) gang awa back tae yer meetin'. Pit a' thae chairges intil proper order, index them under the proper subjects, hae columns an' pages numbered, write them a' doon on pink paper, tie them a' oop intil ane bundle wi' bonnie blue ribbon an' fetch them a' back tae me some bricht sunnie morn, when we can a' tak' a walk awa doon the road tae where th' road bends aroon' th' hill. There's a wee bit brae there, where we can a' stan' an' look doon th' vale an' see th' smoke an' blue blazes comin' frae th' smoke stacks o' th' Toon ah'l tell ye a' tae gae

It's a bonnie nicht, th' nicht. Guid nicht. WEELUM.

"Weelum" has been contributing to the pages of the Wayne County Medical Bulletin. He has even intruded in the Tonics and Sedatives columns of the Journal of the A. M. A. besides several contributions to the Journal of the Michigan State Medical Society. He persists in signing himself Weelum, so that we feel about the same about him as the ethics committee. We feel that Weelum should at least divulge his nationality anyway.—Ed.

SYMPATHY

Dr. Emil Amberg, of Detroit, is the Editor of the Rainbow, an interesting little publication gotten out monthly by the Detroit League for the Hard of Hearing. We reproduce the leading editorial by the Hearing. We reproduce the Editor in the April number.

The ingenious writer, Erwin Liek, has written a book entitled "The Wonder in Medicine." He tries to explain why people depart "from the path of orderly thinking" as the great scientist Virchow ex-

pressed himself. He quotes Goethe's saying, "Truth is to be found easily, but just that does not satisfy Wonder-healers prove, says Liek, that not reason but feeling influences people. We must admit that the imagination is frequently of great influence. A powerful personality exercises a great

influence on his surroundings.

Many people are suffering from an imaginary ailment. These patients are greatly influenced by a so-called authority, a man who has been advertised sufficiently and who will have results when others have not. The Austrian wonder-healer Zeileis is an example, a man of strong personality but alleged to show no knowledge of real medicine. It is reported that he has prevented some people from receiving medical care at the proper time. His star is said to be sinking because damage suits are reported to have been started against him. These charlatans can be found anywhere, be they so-called healers, or other people who play on the imagination and emotions of

The many fake remedies for deaf people belong in this class. It must be admitted that in some instances the medical profession is to blame. individual who suffers wants not only help but also sympathy. Some physicians have lost sight of this. The physician must not only treat the particular ail-

ment, but the whole patient.

The really great physicians know this. Proper medical treatment is not sold like a pair of shoes, for instance. The mechanical dispensing of pills for this or that ailment without taking into consideration the patient as a personality smacks too much of commercialism, which has no place in medicine. A sympathetic understanding of the individual with all his peculiarities, aims and feelings is necessary. A friendly and reassuring word goes a long way and must be combined with advice and help based on medical science and experience.

Many cults, many fake remedies and many fake appliances are made possible by the lack of interest of some physicians. Proper use of massage and physiotherapy by physicians, proper understanding of the mentality of the patients would have prevented systems of treatment which are employed by non-medical men sometimes to the detriment of the patient. Conscientious work on the part of the physician, proper understanding of the patient, who is a human being with all possible frailties, sympathetic advice and carefully selected and individual treatment will give to a patient that state of mind which is an essential factor in influencing his complaints and in helping him as much as is possible.

DR. EMIL AMBERG.

FAMILY DOCTORS (New York Times)

After being long bombarded by articles challenging their very existence, a representative of the family doctors has come to their defense. Dr. Wingate M. Johnson, whose answer to the attack appears in the March Atlantic Monthly, is a general practitioner. He admits that the high cost of medical core for the middle date. But he does not believe it can or should be solved by any of the plans suggested by people who dis-pense advice to the profession. The modern family doctor should take the place of the old family doctor whose obituary is being written every few days. He need not be a general practitioner, but he should have had enough practice to be able to direct a pa-

tient to the proper specialist.

In the matter of fees, Dr. Johnson thinks public sentiment is unjust. The cost of everything else has gone up, and it is unreasonable to expect the cost of medical care not to follow. By selecting the right sort of man for medical adviser, a family may be sure that he will do his best to merit the con-

fidence reposed in him. His personal interest in the patient and the patient's family and his professional pride insure his zeal. Such a guardian of the family health is worth more to the family than the occasional emergency care of a specialist or the disinterested attention of a medical firm or a public clinic. He is worth more and he costs less.

Dr. Johnson's replies to specific criticisms are practical. He believes in specialists when they are genuinely suited to the narrow field they choose. He thinks it is important to keep abreast of medical progress, but he also thinks that the talk of the difficulty of keeping up with new discoveries, treat-ments and inventions is mostly nonsense. A good family doctor is not confused or baffled by new steps in medical science. On the contrary, as Dr. Crookshank wrote recently in The Forum: "Real science simplifies and does not confuse; it synthesizes and leads back to first principles, so that men of intelligence and judgment can with ease keep themselves above of the best opinion" abreast of the best opinion."

There are undoubtedly good arguments against Dr. Johnson's sweeping condemnation of group practice and State medical care or compulsory health insurance, particularly on the theoretical side. But to the average American family his ideas, being based on practical experience, will seem convincing.

THE DOCTOR'S DUTY*

Enclosed, dear Doctor, you'll find my check, This is to pay up my dues "by heck," I've scrimped and saved for over a year; To get it I've gone without food and beer, I believe it's one's duty to stay in the fold, don't wish to shirk, or be left in the cold, For organized medicine needs everyone's mite. To keep things lined up and going just right. We still have the quacks who abound in the land. Against them we doctors must take a strong stand. In order to meet conditions today, Each one of us medics must dig down and pay, Its the doctor's lot and his sacred right, To labor for nothing by day and by night, The poor we have with us, they're always in sight, It is our duty to treat them and to do it quite right, But the "chronic deadbeat" is a damnable curse, I know of nothing this side of hell that is worse, And this is where we are decidedly weak, For our rights we should promptly rise up and speak.

But some dear old brother gets weak in the knee, And treats these "damn scoundrels," minus a fee, So until such times as we rise up and stand pat, Our wallets will likely be empty and flat.

"When a drug really possesses the virtues at-tributed to it, and is an effective remedy for disease, its survival into modern times is quite natural, but the fact that many quite fantastic remedies have been carried on almost to our own days, is definite proof of the slavish copying of the works of one writer to another in a continuous line that originated many centuries ago on the banks of the Nile."-From Magician and Leech—WARREN R. DAWSON.

"A train of thought may die away without any recognizable external result of any kind. When Archimedes invented his test of specific gravity, he ran into the street and shouted; but in the preceding twelve months he must have done a good deal of thinking that left his muscles passive."—Graham

^{*}This little poem speaks for itself. The modest perpetrator is one of our members in one of the smaller towns of the State who acts on the belief that we should support our medical societies and all stand together.

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COMMUNICATIONS

HISTORY OF U. OF M. HOSPITAL To the Editor Journal M. S. M. S.:

In connection with a history of the University Hospital, which I am writing, I am desirous of including a roster of physicians who have served

the hospital in any capacity.

Through the columns of your excellent Journal I am appealing to those who have been connected with the Hospital to send me a record of the position or positions held and the dates thereof. Such communications should be addressed to Dr. Reuben

Peterson, University Hospital, Ann Arbor, Mich. REUBEN PETERSON.

March 26, 1931.

HOW OUR COUNTRY DOCTOR SOLVED
THE X-RAY PROBLEM
To the Editor Journal M. S. M. S.:
The enclosed is part of a letter just received

from a country practitioner. It tells so graphically how he and his father have solved the problem of X-ray diagnosis, that I hope the idea may be found of value to other rural practitioners. Hence, I suggest that you publish it in an early number of the Tournal.

F. B. TIBBALS, Chairman Executive Board Medical Defense.

Editor's note: Dr. Tibbals died suddenly, April

X-RAY ALWAYS CAPITAL X

Your letter in regard to X-ray and fractures was timely. As you know, we live in a small village, that had no electrical service until recently. We have had some fracture cases that were difficult, as any general practitioner is bound to have. Some of these cases we took to neighboring men with the X-ray equipment. This required time and loss to our practice. I had learned in the Army that the Army portable unit was quite satisfactory. advertising and correspondence through the A. M. A., we located a Delco engine out in Iowa that a doctor had purchased from the Army. These engines, as you know, were specially devised to develop an alternating current for the Army X-ray unit. Mr. George Brady had helped a Dr. Chittick of Frankfort, Ind., to rebuild an Army X-ray unit into a portable and, as the doctor had no further use for it, we purchased the same. I give you this detail as we were repetly two years fording what we had a supply that the same of the same when the same is a supply that the same is tail as we were nearly two years finding what we wanted and to tell you that our complete equipment was within \$700.00. Let me say that this little outfit paid for itself in more ways than one and that it is of the most satisfying and enjoyable work that a general practitioner has to do. We could do most any kind of bone work, chests and teeth and also get some fine skull fracture pictures. Later, when the power line came through, we purchased a 10inch gap machine. This last we got second hand at a bargain. The point I wish to make is that if a doctor looks around he can get himself a used equipment that will be reasonable and, with a little practice and instruction, can do his own fracture work and even other work quite well. Of course, we never pose as specialists and we never give X-ray treatments. Such cases we always turn over to some one like Crane of Kalamazoo. I find that people are willing to pay for such service and that in a few years your machine is paid for and, besides, you have had the satisfaction of doing better work right in your own office. Recently we had a bad automobile accident case, with fracture of tibia and fibula one inch below the knee joint and fracture of

the skull. As this man had electrical service in his home, we took the portable machine right to his home and left it there for frequent observation of fractures until the man was well on the road to recovery.

EUGENE TAYLOR BRUNSON, M.D., Ganges, Michigan.

March 19, 1931.

Dr. F. C. Warnshuis, Secretary, Michigan State Medical Society, 1508 Grand Rapids National Bank Bldg., Grand Rapids, Michigan. Dear Doctor Warnshuis:

In re: Hoxsey
Many thanks for the facts detailed in your good letter of March 17. I have been kept pretty well informed regarding the Hoxsey situation in Detroit through Mr. Burns, and I have sent both Mr. Burns and Mr. Brewer of the Detroit News, also Mr. Gilmore of the Detroit News, as well as Dr. Dutchess of the Detroit Department of Health, such "dope" as I could on Hoxsey.

I get the impression from what I have heard that Mr. Moross is probably pushing the Hoxsey fake not so much because he believes in Hoxsey or his remedy, as because he wants to fill up his apartment building, which, I understand, has been pretty much of a "white elephant" on his hands for some time.

I am not sure whether I can trace back, far enough, the death certificate of Hoxsey's father. The file on this faker is so voluminous by this time and has extended over so many years, that it is a tremendous job to dig out some of the earlier details. I will, however, do my best.

You don't know what a warm glow of satisfaction I get from the active work that is being done in Michigan since you have been on the Michigan State Board of Registration in Medicine!

Cordially yours, (Signed) ARTHUR J. CRAMP.

Detroit, Mich., April 8, 1931.

Dear Dr. Warnshuis:

The Council of the Wayne County Medical Society, at its meeting of April 6, 1931, placed on its minutes a vote of thanks to you for your very active and arduous work in your efforts to eliminate from Detroit one Harry Hoxsey and his so-called "cancer

The Council realizes that your labors in this regard have meant the expenditure of much valuable time and real hard effort. Please know that it appreciates your activities.

Please call upon our Executive Office whenever it

may be of any service to you.

Very cordially and sincerely,

WAYNE COUNTY MEDICAL SOCIETY, J. M. Robb, M.D., President.

St. Joseph, Mo., March 30, 1931.

To the Editor:

On February 23, this year, a solicitor victimized a number of physicians in St. Joseph. His plan was to solicit subscriptions to Harpers and other magazines and to offer sets of books as premiums. The subscription blank called for the payment of He was supplied with \$9.70 in ninety days. blanks, samples of binding and everything to indicate that he was a bona fide magazine salesman.

After he had secured the signature on the subscription blank, he explained in an indifferent manner that if the subscriber cared to pay cash, or by check, there was a discount of \$1.00, and the check could be made payable to "Harper r.

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Brothers Publishing Co.," the name printed on the subscription blank. The doctors "fell for it" and the next day he cashed the checks at a local bank and departed. He used the name T. T. McLean while here but has also used the name Leroy Dale.

Correspondence with the National Publishers Association, 15 West 37th Street, New York, indicates that this person has been defrauding physicians in the Middle West for several months.

E. J. GOODWIN, M.D.

GENERAL NEWS AND ANNOUNCEMENTS

It is anticipated that the legislature will adjourn about May 15.

Dr. J. A. Walsh, Escanaba, succeeds Dr. W. A. Lemire, deceased, as a member of the Board of Registration.

Dr. and Mrs. O. W. Pickard left April 11 on the S. S. Roma for a three months' Clinic tour of Europe and the British Isles.

Dr. Harry E. Knight, Detroit, left March 16, for a motor trip through the south to Miami Beach and Cuba, where he got an early start on his golf.

The Osteopathic Bill, providing for unrestricted rights to practice medicine and surgery, was introduced April 6 by Senator Woodruff of Wayne County.

Dr. Wynand Pyle of Detroit has temporarily left the ranks of the medical profession in Detroit. He has been appointed ship surgeon on one of the steamers on the Holland-American Line plying between New York and Amsterdam.

The State Board of Registration will conduct joint examinations in Ann Arbor and Detroit, June 15, 16 and 17. Those desiring to take the examinations should file their credentials and applications before June 1. Address the Board, 1010 Maccabee Building, Detroit, Michigan.

At the annual meeting of the American College of Physicians which was held in Baltimore the last week in March, Dr. A. S. Warthin of Ann Arbor was elected first vice-president for the ensuing year. Dr. Charles G. Jennings of Detroit was elected second vice-president and Dr. James D. Bruce of Ann Arbor was elected to the board of governors.

The A. M. A. meets in Philadelphia the week of June 8. Railroad fares are at a one and one-half rate—certificate plan. Be sure to ask the agent for a certificate when purchasing your ticket. Michigan will be represented by Drs. Brook, Moll, Gorsline, Luce and Cassidy in the House of Delegates. Dr. B. R. Shurly will be a delegate from the Section on Ophthalmology.

Number IV, Volume I, of the Journal of the Detroit College of Medicine and Surgery contains a very serviceable article by the Editor, Dr. James E. Davis. The title is "Useful Etymological Data,"

consisting of twenty-three pages of Latin and Greek prefixes and of Latin and Greek words from which a large number of technical terms in the medical sciences are derived.

"The Michigan State Medical Journal is the best in the United States. It is the only method by which individual doctors can keep in touch with the doings of the State Society. It costs \$1,000 a year to put the wrapper on it, etc."—Genesee County Medical Bulletin. We do not want to start an argument but will be gratified if we have given our members satisfaction. And remember, doctor, it costs nothing to tear the wrapper off.

The Grace Hospital, Detroit, has opened a free clinic for speech correction for the needy poor. Physicians are invited to refer patients suffering from stammering and other speech defects. Professor John H. Muyskens of the Department of Biolinguistics of the University of Michigan will act as speech consultant. The clinic will be under the supervision of the Department of Neurology of the Hospital.

The Flint Journal recently published a translation by Dr. H. E. Randall, former President of the Michigan State Medical Society, from a work by de Tocqueville, a transcription of a trip made from Detroit to Flint 100 years ago. The translation by Dr. Randall is a very interesting account of the conditions which prevailed in the wilderness of a century ago.

Dr. W. J. Cassidy of Detroit extends to the Profession of the State an invitation to an all-day General Surgical Clinic at St. Mary's Hospital on May 15, 1931. Histories and laboratory data on the interesting cases will be mimeographed so that those attending will be furnished with copies. The recent advances in the technical fields will be demonstrated and evaluated. Movie-talkie films upon various subjects will also form a prominent part of the program. The Clinic will start sharp at eight.

Three professors at the University of Michigan were given special honor by the house and senate at Lansing on April 14 in recognition of work that they had done that is world-wide in its significance. The men honored are Dr. Frederick G. Novy, chairman of the executive committee of the department of medicine and surgery of the University of Michigan; Dr. Moses Gomberg, professor of organic chemistry at the University; and Dr. Reuben L. Kahn, director of the laboratory of the University Hospital. In connection with this observation Governor Brucker made the following statement: "It is altogether fitting and proper that the two branches of the legislature should assemble in joint convention to give recognition to these outstanding scientists, to hear a brief story of their work and to confer upon them suitable recognition for their distinguished service to humanity."

The New York State Journal of Medicine for April contains the following reference to the Journal of the Michigan State Medical Society and more particularly to the Conference of County Secretaries which was reported in full in the March number: "The March issue of the Journal of the Michigan State Medical Society," says our contemporary, "is packed full of interest in all its 132 pages of reading matter. Of special value are the minutes

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of the meeting of the Council covering 19 pages and a 32-page stenographic report of the Annual Conference of County Secretaries." Then continues our New York contemporary after giving a list of the subjects of papers at the County Secretaries meeting at Ann Arbor, "These topics were presented in the form of papers whose importance would have justified their being listed in the index; but since they are not so listed, they will be overlooked by many readers." We quite agree with the editor of the New York State Journal of Medicine. These papers should have been given a prominent place in the table of contents. The Journal then goes on to abstract the said papers in the section devoted to "Our Neighbors," devoting pages 438 to 452 to this purpose. We wish here to express our gratitude to the editor of the New York State Journal of Medicine for his recognition of this Journal.

MEDICAL HISTORY OF MICHIGAN

The Michigan Library Bulletin for February, 1931, contains the following review of the Medical History of Michigan, edited and largely written by Dr. C. B. Burr.

C. B. Burr.
 Michigan State Medical Society. Doctor C. B. Burr, editor and compiler. Medical History of Michigan. Bruce Publishing Company. 1930.

A voluminous piece of work, which has attracted much attention both because of the importance of the subject matter and the noteworthy success of the enterprise, has just been finished, culminating the work of many years and many persons. "The Medical History of Michigan," sponsored by the Michigan State Medical Society and compiled and written for the most part by Doctor C. B. Burr of Flint, has just come from the press, the first volume appearing in the early fall and the second and last volume within the past few weeks. Doctor Burr and his co-workers have succeeded in bringing together in a marvelously interesting form a tremendous amount of valuable historical material. The publication has been greeted with approval and enthusiasm by medical authorities, medical publications, and historians.

The chapter headings tell something of the wide field covered by the authors of these two volumes. The chapter headings of the first volume are:

The chapter headings of the first volume are:

I. The Doctor Mainly From the Layman's Viewpoint; II. The American Indian, his Mentality, Manners, Morals, and Medicine; III. Physicians with the Early Explorers and Adventurers; IV. Eighteenth Century Michigan Physicians; V. Experiences of the Pioneer in which the Doctor Bulks Large; VI. William Beaumont, M.D.—Michigan's Significant Contribution to the World's Medical History, a symposium; VII. Pioneer Physicians—Types and Anecdotes; VIII. Sundry Anecdotes and Brief Biographies of Pioneer and Early Michigan Physicians; IX. Medical Education in Michigan; X. A Great Medical Teacher, Surgeon, Soldier—Doctor Theodore A. McGraw; XI. Some Medical Men and Methods of Yester-year, Contact and

Close-ups; XII. Medical Journalism; XIII. Diagnostic Aids and Therapy; XIV. Prevailing Diseases and Epidemics; XV. Public Health Work in Michigan

Of the chapters in the first volume all were written by Doctor Burr himself, except Chapter IX, written by Doctor J. H. Dempster, Chapter X, written by Doctor Frederick A. Coller, Chapter XII, by Doctor Walter H. Sawyer, Chapter XV, by Doctor Guy L. Kiefer, and Chapter VI, in which Doctor Burr had the coöperation of Doctors J. H. Dempster and Burton R. Corbus.

Volume II was likewise written largely by Doctor Burr, though many valuable chapters were contributed by other physicians of high standing. The chapter headings in the second volume are:

chapter headings in the second volume are:

I. Controversies; II. Malpractice, Litigation, and the Physician as a Witness; III. Medical Defense; IV. A Medical Miscellany and Medley; V. Extraprofessional Activities; VI. Women Physicians; VII. Michigan State Medical Society; VIII. Some of the Active Medical Societies—Then and Now—Their Props and Promoters; IX. Upper Peninsula Medical Men and Women—a symposium; X. The History of Hospitals and Nursing in Michigan; XI. State Psychiatric Hospitals and Medical Establishments for the Mentally Handicapped or Retarded; XII. The Military Service of Michigan Physicians—a symposium.

Chapter III was written by Doctor Frank Burr Tibbals, Chapter IX was written by Doctors William K. West and Carl F. Moll in coöperation with Doctor Burr, Chapter X by Doctor Richard R. Smith, Chapter XI by Doctor W. J. Kay in coöperation with Doctor Burr, and the closing symposium, in Chapter XII, was the work of Doctors Andrew P. Biddle, Wilfred Haughey and Doctor Burr.

Dr. Frank B. Tibbals, Chairman of the Medical Defense Committee of the Michigan State Medical Society, died very suddenly on the night of April 22 of heart disease. A biography and editorial tribute will appear in the June number of this Journal.

Dr. B. R. Shurly of Detroit, Chairman of the Board of Education, has announced himself as a candidate for the Federal House of Representatives.

The opening of the new Mercy Hospital, Muskegon, Michigan, took place April 23: A large number of the medical profession and citizens of Muskegon were present when addresses were given by Dr. Garber on "The Hospitals of Muskegon County"; Dr. George Le Fevre spoke on "The Relation of Medical Progress to the Hospital," and Dr. Angus McLean of Detroit gave an address on the subject of "General Surgery, Ancient and Modern." Dr. McLean also discussed medical and hospital economics.

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SOCIETY ACTIVITY

OBSERVATIONS

While attending one of the luncheons of a certain county society we encountered the following experience at the cashier's desk while paying our check. There was the usual assortment of cigarettes, cigars, gum and mints. Prominent, however, was a display of "Snedul's Throat Lozenges" and "Twin Brothers Cough Drops." Was it to laugh? Yes, and a good chance for razzing. The cafe is owned by the doctors but an attendant's sales enthusiasm evidently was based on the conclusions that doctors do not prescribe for themselves.

The American Medical Association meets in Philadelphia the week of June 8. Send in for your hotel reservations now.

Your County Secretary will accept your order for Michigan's Medical History. Place your order, it will be filled promptly. A set should be in your library.

Once again attention is directed to our advertising pages. Your patronage is solicited. These business firms make your Journal possible. They merit your support. The plea is made that you respond to the invitations extended to you by our advertisers.

Delegates Moll and Brook will introduce two important resolutions in the A. M. A. House of Delegates. One provides for a national commission that will be directed to set forth the qualifications that an individual must present in order to be recognized as a "specialist" in the fields of medicine and surgery. The other provides for a special committee to take up the question of remuneration for filling out insurance blanks.

REVOCATION OF LICENSES

In this issue will be found the minutes of the special meeting of the State Board of Registration in Medicine held on March 30, 1931

The Board held one important hearing that terminated with the revocation of the license of Dr. Van Hyning. The charges

were: "The lending of his name and having professional connection with an illegal practitioner, one H. M. Hoxsey."

The Bureau of Investigation of the American Medical Assn. reports from its large file that H. M. Hoxsey was sentenced in two or three courts in Illinois. That he then moved to Iowa and that within a few months the courts of Iowa entered a permanent injunction against him. The reports state that all these actions were against Hoxsey for conducting an alleged cancer cure clinic. That he was also at one time associated with a certain Baker whose license was revoked in Iowa.

Prevented from conducting cancer clinics in Illinois and Iowa, Hoxsey came to Detroit. He was able to induce certain Detroit citizens to finance his project and furnish him with a building for his Cancer Clinic. The clinic was opened on March 8. Since opening, its name has been changed to the Detroit Cancer Clinic. Various measures were employed, including the radio, announcing the so-called clinic and the curative virtues of the Hoxsey Cancer Cure. Dr. Van Hyning was employed or secured to serve in this clinic.

Complaint was filed by the Wayne County Medical Society and the Detroit Department of Health. Through the work of Major Roehl, investigator, evidence was secured. On March 9 complaint was filed with the Wayne County prosecutor. Hoxsey was called in and the prosecutor gave him one week to cease operations and leave Detroit. Dr. Van Hyning was summoned and warned that a continuance of his association would lead to charges citing him for a revocation of his license.

On March 16 Hoxsey was arrested. He had a hearing on the twenty-fifth and was bound over for trial. Dr. Van Hyning was cited for a hearing on March 30 for revocation of his license.

The hearing consumed about five hours. Four attorneys represented the defendant. It was evident that a record was being made to carry the case to the Supreme Court. The authority and powers of the Board were frequently challenged. The evidence was clear and undisputed. In fact, it was frequently admitted that Dr. Van Hyning was associated with Hoxsey. At the conclusion of the hearing the Board revoked Dr. Van Hyning's license.

The case will undoubtedly be appealed. This experience again indicates the imperative necessity of enactment of the amendments to the Medical Practice Act so that attorneys cannot take into court every action that the Board records.

It may be added that through actions instituted radio privileges have been terminated. Newspaper publicity and exposure has been obtained. Hoxsey's duration in Michigan will apparently be short. Three weeks witnessed his arrival and exposure. It is difficult for illegal practitioners to gain a foothold in Michigan.

SELF-APPRAISAL

President Ross, in the New York State Journal of Medicine, makes the following pertinent observation:

In November, 1930, at the annual meeting of the Secretaries of the Constituent State Medical Associations, the President of the New York State Society said in a paper on "Public Relations":

"Organized medicine can never overcome its troubles without the aid of some greater degree of self-appraisal as to whether it is meeting all of its obligations of public service. If it does not meet these obligations, some other agency will do so, just as has been done in other countries. This will quite likely be the action of the state and may not be to the satisfaction of the profession. The medical profession has two ways open to it. One is to fight public opinion and to retreat as slowly as possible. The other is to accept the practical philosophy of self-appraisal. If the result of such self-examination warrants it, let organized medicine make proposals to meet the needs of public health organization for its administration and proposal of how to provide adequate medical care when sickness comes. This can be approached by a study of relationships and a willingness to cooperate with other agencies, under the expert guidance of the profession of medicine. Are we willing to undertake the responsibility of such a study? Self-appraisal of our own organization and proposals from our own organization to meet the great problems of health and sickness service will put the profession of medicine in the position that it should be in and in the position that the public expects it to occupy.

Is our house in order? Would it not be timely to take invoice and determine whether or not we are delivering the service that the people demand and expect?

THE TREND OF MEDICINE

How many of our members have read Dr. Sinai's paper on this subject, read at the County Secretaries' Conference and published in the March issue? If you failed to do so you have passed over one of the best

discussions on the subject. We confess not only to having heard the speaker deliver his address on two occasions but also to having read and quoted it a dozen times.

Just ponder on these extracts:

"A bird's-eye view of our whole system of medical care brings out the striking point that almost a million and a half individuals derive their livelihoods and, let us hope, their satisfaction in work, from supplying the various medical services. We would expect to find, when we come closer in our view of the system, some cohesion between the members of this great group, some unity of thought, some definiteness of objective, and some likeness in the method of approaching the objective. However, a closer view reveals that almost the opposite of these expectations exists.

expectations exists.

"We find that the great group is broken into smaller groups, and that these are set off from each other in what amounts to almost watertight compartments. In one compartment we find the 145,000 physicians; in another compartment, the 65,000 dentists; and so it goes—compartment by compartment. Not only do we find little contact between the compartments, but we also see evidence of antagonism, animosity, and friction between the groups."

And as a plea for wider interest and unity of action, Dr. Sinai concludes as follows:

"The part the professions are to play in the future trend of medical care is obvious. If there was ever a need for professional groups to pause and objectively study movements in medical care, the need is now pressing. If there was ever a need for forgetting petty animosities and energy-consuming antagonisms, within the professions and between professions, the need is here. Changes that take place may be directed by the professions or there is danger that they will be directed for the professions."

Again do we urge that you turn to the March issue and read the entire address.

MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE

A special meeting of the Michigan State Board of Registration in Medicine was held at 1124 Maccabee Building, Detroit, Michigan, at 4 P. M., March 30, 1931.

Present: Drs. McLaughlin, Kelly, Mc-Intyre, Brook, Tew, Teifer, Yeomans, Walch.

Absent: Drs. Marshall, English.

Dr. Nelson McLaughlin, President, in the Chair.

The meeting was called to order by the Chairman.

Dr. J. J. Walch, Escanaba, Michigan, presented his commission, by Governor Brucker, as a member of the Board of Registration in Medicine.

READING OF MINUTES BY THE SECRETARY

Dr. McIntyre suggested that two typo-

graphical errors be corrected.

No further objection being made, the Chairman declared the minutes of the meeting of November 12, 1930, adopted as read. Re: Dr. William A. Lemire.

The Secretary presented the following

resolution:

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"On March 2, 1931, William A. Lemire, M.D., of Escanaba, Michigan, while engaged in his professional labors, received the final summons and, answering, passed

on to that unknown beyond.

"We, the members of the State Board of Registration in Medicine, record tribute to his life, his professional services and his contributions of time and labor to the work of this Board. In like spirit do we attest that his departure deprives the profession and the state, of the administration, counsel and inspiration of one whose life was replete with deeds of love and sacrifice for his

"THEREFORE, BE IT RESOLVED: That we extend to his helpmate and his children our sincere sympathy in their bereavement and assure them that we do mourn with them in their loss of husband and father.

"AND BE IT FURTHER RESOLVED, That a copy of these resolutions be spread upon the

official records of this Board.

By Dr. McIntyre, seconded by Dr. Yeo-

RESOLVED, that this resolution be adopted, spread upon the minutes of the Board, and a copy sent to the family of Dr. Lemire.

Yeas, 8; Navs, 0.

READING OF SECRETARY'S REPORT To the Board of Registration in Medicine. Gentlemen:

Your Secretary respectfully calls to the Board's attention the following administrative details and requests instructions thereon.

1. Financial: Appended hereto is a copy of a statement made to the Governor and filed with the Committee on Ways and Means of the Senate and the House of Representatives. Recommendation is made that you designate certain members to go to Lansing and appear before these committees to plead for the allowance of the Board's budget.

On February 1st I was advised that the Board's budget was overdrawn \$1,100.00 and that no funds would be available until July 1st. Attached is a copy of my communication to the State Administrative Board. I also went to Lansing and interviewed the Governor. On February 18th, 1931, we were advised that a special appropriation of \$1,800.00 had been made. On March 1st the accountant's report showed that the \$1,100.00 overdraft had been charged against this appropriation, leaving us then a balance of only \$700.00. This will be expended in April. To carry us through June, the examinations, efc., at least \$2,500.00 is required. Your Secretary

recommends that this same committee take steps to

secure these necessary funds. 2. Examinations: Our June examinations conflict with the A. M. A. meeting. The suggestion has been made that we hold but one combined examination in Ann Arbor the week of June 15th.

Your instructions are requested.

3. Industrial Practice: In February, the Wayne County Medical Society filed a complaint relative to the work of nurses and first aid men in industrial plants. Following an investigation, a communica-tion was addressed to manufacturers defining first aid and the practice of medicine. Conferences are now in progress seeking to correct these practice

4. Complaints and Investigations: Each week brings several complaints against licentiates or illegal practitioners. In each instance an investigation is made, an interview is obtained, followed by adjustment, probation, reference to federal or local This policy is beginning to be productive of beneficial results. Concurrent publicity has caused a realization that this Board is concerning itself with the conduct of licentiates. Increasing inquiries are being received as to the legal rights ere the inquiring individual undertakes new activities. Your Secretary feels this to be a wholesome influence. It is hoped that funds may be available to obtain

full time investigators.
5. Legal Opinions: Two inquiries have been re-

ceived requesting important opinions:

(a) Can a drugless practitioner sign a death certificate?

(b) Can a group of doctors, organized as a company or a corporation, practice as a company or a corporation?

These have been referred to the Attorney General.

His opinions have not yet been received.

6. Amendments to the Law: Pursuant to the recommendation of the Attorney General, and the action of the Board, your Secretary caused the introduction of these amendments in the Legislature. The bill is now known as House Bill 357. Previous to its introduction, the executive committee of the council of the State Society issued a statement and a copy of the bill to each county society. As a result but three county societies offered objection to annual registration. It is purposed to press the

early passage of these amendments.
7. Illegal Practitioners: On March 16, joining with the Detroit Department of Health and the Wayne County Medical Society, a warrant was secured for one "Hoxsey" who formerly conducted a cancer treatment in Illinois and Iowa. An Iowa injunction terminated his Iowa activities and hence his migration to Michigan. The case is now in

Among cases pending are: Dr. Chas. J. Beaver, warrant issued January 29, 31, by Detroit Police Department, for man-Whereabouts unknown at present time. Cited for hearing at June meeting on old abortion charge, pending his apprehension on the new charge. Dr. Jos. Scheidler, Flint, arraigned on man-slaughter case at Flint, January 14, 1931, held for

8. Conclusions: Your Secretary has spent one and two days each week in Detroit. I have been in weekly conference with the President and have diligently sought to discharge the duties of the office and execute the instructions of the Board. I am grateful for your kindly support.

Respectfully submitted,

F. C. WARNSHUIS, Secretary.

By Dr. McIntyre, seconded by Dr. Kelly: RESOLVED, that the Board examinations be held concurrently, at Ann Arbor and Detroit, on June 15, 16 and 17, and the meeting of the Board, business session, be held at Detroit, on the evening of June 17,

Yeas, 8; Nays, 0.

By Dr. McIntyre; seconded by Dr. Yeo-

RESOLVED, That the Secretary's report be adopted, and that the President appoint a committee to call upon the necessary committees of the Legislature.

Yeas, 7: Nays, 0.

Re: Legal advice and assistance.

By Dr. Teifer, seconded by Dr. McIntyre: RESOLVED, that the Secretary be instructed to communicate with the Attorney General suggesting that one person be assigned to medico-legal matters, and that this person be permitted to attend all Board meetings for the proper guidance of the Board on legal questions.

Yeas, 8; Nays, 0.

HEARINGS

Re: Dr. John Brunning, Rose City, Michigan.

Dr. Brunning appeared personally before the Board, with the request that he be licensed in Michigan, upon indorsement of his Indiana credentials. He stated that he was a graduate of the Eclectic Medical College of Indianapolis, Ind., on April 15, 1908, and submitted his diploma. Also stated that he was registered in Indiana the same year.

Dr. Brunning stated that he had filed his credentials with his lawyer, in 1908, who, he supposed, had taken care of the necessary details. It was not until many years after this man's death that Dr. Brunning learned that the application had not been filed and he was not registered in the state. He continued in his practice without interruption until February of this year, when the prosecuting attorney informed him that he must cease practice until he had complied with the law.

By Dr. Kelly, seconded by Dr. Teifer:

RESOLVED, That Dr. Brunning be instructed that his application should be presented in the proper form to this Board, that he cease practice without registration, and that if his qualifications fulfill the

registration, and that if his qualifications fulfill the requirements demanded at the time of his gradua-

Yeas, 7; Nays, 0.

Dr. Frederick J. Champney, 2810 Book Building, Detroit, Mich.

Age: 64.

Mch.
Age: 64.
Graduate: Detroit College of Medicine and Surgery, 1893.
Licensed in Michigan, Sept. 7, 1901. Located in Perrysburg, Ohio, since that time and listed in A. M. A. Directory as "Not in practice." He is now a representative of "Theronoid," and gives radio talks on its merits.
The Better Business Bureau, of Detroit, reports that they have many complaints on file in their office regarding this article.

have many complaints on hie in their chief article.

Notified to appear before the Board.
Dr. Champney and his attorney, Jay F. McMullen, appeared in person and requested that itemized charges be filed with them, and asking a continuance of the case until the June meeting.

By Dr. Yeomans, seconded by Dr. Teifer:
RESOLVED, That Dr. Champney's request be granted.
Yeas, 8; Nays, 0.
Dr. Albert H. Eber, c/o Frank B. Leland After Cure Farm, Ypsilanti, Mich.
Age: 54.

Ypsilanti, Mich.
Age: 54.
Graduate: Detroit College of Medicine, 1897.
Medical officer, U. S. Army for over twenty-five years;
retired Dec. 31, 1927. Requests a special examination in
order that he may be registered in his position as superintendent of the Leland Sanatorium.
Dr. Eber appeared personally, but was advised to withdraw his request, complete his original Illinois registration
and apply for licensure in this state through indorsement
of his Illinois credentials.

Re: Dr. R. E. D. Hawley, St. Clair Shores, Mich.
Age: 55.
Graduate: University of Michigan Medical School, 1920.
A.B., University of Michigan, 1909.
Internship: Lynn Hospital, Lynn, Mass.
Registered in Michigan, July 5, 1920, after Board examination.

The American Medical Association reports that his Massachusetts license was revoked July 21, 1927.

Dr. Hawley appeared in person before the Board, explained the conditions which caused the suspension of his Massachusetts license and requested leniency by the Board.

By Dr. Kelly, seconded by Dr. Teifer:

RESOLVED, that this complaint be laid on the table. Yeas, 7; Nays, 0. Carried.

MISCELLANEOUS

Re: Maybury Sanitarium, Northville, Mich. Pontiac State Hospital, Pontiac, Mich.

By Dr. McIntyre, seconded by Dr. Kelly: RESOLVED, that these institutions be approved by the Board for two years' intern-

ships in psychiatry and tuberculosis.

Yeas, 8; Nays, 0. Carried. Re: Amendments to Medical Practice Act (H. B. 357)

By Dr. McIntyre, seconded by Dr. Kelly:

RESOLVED, that the Secretary direct a communication to the Legislature indorsing the proposed amendments to the Medical Practice Act.

Yeas, 8; Nays, 0. Motion carried. Upon motion, a recess was taken.

Meeting Called to Order at 7:00 P. M. Re: Dr. Chauncey L. Barber, 500 W. St. Joseph St., Lansing, Mich.
Age: 73.
Graduate: Chicago College of Physicians and Surgeons,

Registered in Michigan, March 22, 1900, under the present

Registered in Michigan, March 22, 1900, under the present Act.

Certified copy of conviction in Justice's Court, Lansing, Michigan, dated January 7, 1931, on charge of "Failure to notify a coroner in a death caused by abortion." Sentence, fine \$94.50 and costs \$5.50.

A letter was read from Mrs. Barber, stating that due to the critical illness of Dr. Barber he would be unable to appear and requesting postponement of the Board's action. By Dr. McIntyre, seconded by Dr. Kelly:

Resource that action on this matter be postponed

RESOLVED, that action on this matter be postponed

Yeas, 8; Nays, 0. Motion carried.

Re: Dr. Wm. Charlton Edmison, Mackinac Island, Michigan.

Age: 47.

Graduate: Detroit College of Medicine, 1913.

Licensed in Michigan, after Board examination, June 19, 1913.

Certified copy of his conviction in U. S. District Court, Grand Rapids, Mich., on Nov. 1, 1929, on five counts, violation of Harrison Narcotic Act, and sentenced to two years in Leavenworth Penitentiary.

By Dr. Kelly, seconded by Dr. Teifer:

RESOLVED, that Dr. Edmison be cited to appear at the June meeting of the Board to show cause why

his license should not be revoked.

Yeas, 7; Nays, 0.

Re: Dr. Charles Ray Parker, 4612 N. Lincoln St., Chicago, III.

Age: 51.

Graduate: Chicago College of Medicine and Surgery, 1913.
Licensed in Illinois, Nov. 14, 1913, after Board examination.

Licensed in Illinois, Nov. 14, 1913, after Board examination.

Asks indorsement of his Illinois credentials.

Submits Illinois Examiners Certificate No. 212, as the equivalent of the required high school preliminary requirement. The American Medical Association states "Information on file indicates that in 1911 he was fined \$100 and costs for practicing medicine without a license in Illinois." School of graduation classed as "B," 1907 to 1917.

By Dr. Brook, seconded by Dr. Teifer:

RESOLVED, that this request be denied. Yeas, 8; Nays, 0. Carried.

Re: Dr. Homer Bailey Van Hyning, c/o LaFrance Clinic, 3447 Woodward Ave., Detroit, Mich.

The following citation to appear was served by

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The following citation to appear was served by

L. W. Frick, Deputy Sheriff, Wayne County, upon Dr. Homer Bailey Van Hyning, at 3447 Woodward Ave., Detroit, on March 24, 1931:

"To:

Dr. Homer Bailey Van Hyning, c/o LaFrance Clinic, 3447 Woodward Ave., Detroit, Michigan.

Sir: Substantial complaint having been filed against Substantial complaint having been filed against you, please take notice that you are hereby cited to appear before the Board of Registration in Medicine, on Monday, March 30, 1931, at 7:30 P. M., at a meeting to be held in the rooms of the Wayne County Medical Society, 1124 Maccabee Building, Detroit, Michigan, to then and there show cause, if any there be, why your certificate of registration or registration being numbered 7689 and issued to you under date of November 22, 1913, shall not be suspended or revoked, pursuant to the provisions of Act 237, Public Acts of 1899 as amended, under which your registration was obtained.

Violation of Section III, p. 6, of Act 237, Public Acts of 1899 as amended, 'grossly unprofessional and dishonest conduct' as defined in this section, and in particular with having professional connecand in particular with having professional connection with and lending your name to an unlicensed individual in the person of one Harry M. Hoxsey, who on March 8, 1931, examined and diagnosed an alleged physical condition in one Otto F. Fischel. Further that said Harry M. Hoxsey is not licensed to practice medicine in the State of Michigan.

By order of the State Board of Registration in Medicine of the State of Michigan.

MICHIGAN STATE BOARD OF REGISTRATION IN MEDICINE.

By F. C. WARNSHUIS, Secretary (Signed)."

Upon call, Dr. Van Hyning appeared in person and by attorney, Mr. O. L. Smith.

The Board proceeded with an open public hearing.

Mr. Smith presented a written objection, denying the Board's right to proceed. Overruled by the President.

Witnesses in support of the complaint appeared as follows: Miss S. Brown, Major John F. Roehl, Mr. Otto Fischel, Dr. Charles L. Tennant. Unlimited opportunity for cross-examination was accorded by Dr. Van Hyning's counsel.

Re: Dr. Van Hyning. Defendant's counsel presented several witnesses, as shown by the record.

Defendant was asked if he or his counsel had any further testimony or evidence to introduce.

Defendant rested.

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The Board went into executive session and after a full discussion and weighing of the evidence, on motion by Dr. McIntyre, and supported by Dr. Yeomans, that this Board determines that Dr. Homer Bailey Van Hyning has been guilty of unprofessional and dishonest conduct in that he did have professional connection with an illegal practitioner of medicine and lent his name to an illegal practitioner of medicine con-

trary to the Sixth subdivision of Section 3, of Act 237, Public Acts of 1899 as amended, and that his license granted under such Act, as evidenced by certificate of registration, or license, No. 7689, issued November 22, 1913, be and the same is hereby permanently revoked, effective at noon of the 31st day of March, A. D. 1931.

Yeas 8; Nays, 0. Motion carried.

(Copy of notice sent Dr. Van Hyning)
"To:
Dr. Homer Bailey Van Hyning,
c/o LaFrance Clinic,
3447 Woodward Ave.,
Detroit, Michigan.
Sir:

Detroit, Michigan.

Sir:

This is to officially advise you that after due deliberation and review of the evidence recorded during your hearing on March 30, 1931, the Board of Registration in Medicine of the State of Michigan, by unanimous vote of the members present recorded the following action:

That your certificate of registration, or license, being numbered 7689, authorizing you to practice medicine and surgery in this State, and issued to you by this Board under date of November 22, 1913, be revoked, and that said revocation become effective at noon of March 31, 1931.

By direction of the Board of Registration in Medicine of the State of Michigan.

(Signed) F. C. Warnshuis, Secretary."

Re: Dr. Herbert Thurtell, 99 W. Main St., Benton Harbor, Mich.

Age: 68.

Graduate: University of Michigan, 1892.

Registered in Michigan through reciprocity with Wisconsin, August 10, 1909.

Certified copy of his conviction on the charge of performing an abortion, dated October 13, 1930, in the Circuit Court, St. Joseph, Michigan, filed with the Secretary.

Dr. Thurtell, accompanied by his attorney, Mr. Charles W. Gore, of St. Joseph, appeared before the Board.

Mr. Gore requested that leniency be shown Dr. Thurtell, inasmuch as he felt he was responsible for Dr. Thurtell, having pleaded guilty to the charge—unaware at that time that he was rendering Dr. Thurtell liable to the loss of his license.

By Dr. Brook, seconded by Dr. Kelly:

By Dr. Brook, seconded by Dr. Kelly:
RESOLVED, that the charges against Dr. Thurtell be

Yeas, 8; Nays, 0. Motion carried.

Re: Mr. Frank B. Hursley, drugless practitioner, 7338

Woodward Ave., Detroit, Mich.

Age: 52.

Registered by this Board, after examination under Section 3, Subdivision 3rd (drugless practice clause), on September 2, 1924.

The following citation to appear was served on Mr. Hursley, personally, by Major John F. Roehl, March 23, 1931:

"To: Mr. Frank B. Hursley, 7338 Woodward Ave., Detroit, Michigan. March 23, 1931.

Sir:
Substantial complaint having been filed against you, please take notice that you are hereby cited to appear before the Board of Registration in Medicine, on Monday, March 30, 1931, at 5 P. M., at a Board meeting to be held in the rooms of the Wayne County Medical Society, 1124 Maccabee Bldg., Detroit, to then and there show cause, if any there be, why your certificate of registration, being numbered 163, and issued to you by this Board under date of September 2, 1924, pursuant to the provisions of Act 237, Public Acts of 1899 as amended (Section 3, Subdivision 3rd), should not be suspended or revoked.
Charges:

Charges:
Violation of the Act under which you hold your license in that you misrepresented your profession and under this license opened an institution wherein you engaged in certain questionable practices.

By order of the State Board of Registration in Medicine.
(Signed) F. C. Warnshuis, Secretary."

(Signed) F. C. WARNSHUIS, Secretary."

Upon call, Mr. Hursley appeared in person and by attorney, Mr. M. M. Marston.

The Board proceeded with an open public hearing.
Major John F. Roehl, Special Investigator of the Detroit Department of Health, presented the evidence against Mr. Hursley, according to the record, and was cross-examined by Mr. Marston.

Mr. Hursley's testimony was then taken.
Defendant was then asked if he or his counsel had any further testimony or evidence to introduce. Defendant rested.

The Board then went into executive session and after a full discussion and weighing of the evidence,

on motion of Dr. McIntyre, and supported by Dr. Teifer, that this Board determines that Mr. Frank B. Hursley has been guilty of unprofessional and dishonest conduct contrary to Section 3, Subdivision Sixth of Act 237, Public Acts of 1899 as amended, and that his license being numbered 163 and issued under date of September 2, 1924, be and the same is hereby permanently revoked, effective at noon of the 31st day of March, A. D. 1931.

Yeas, 8; Nays, 0. Motion carried.

(Copy of notice sent Mr. Hursley)

"To:

March 31. 1931.

March 31, 1931.

Mr. Frank B. Hursley, 7338 Woodward Ave. Detroit, Michigan.

Sir:
This is to officially advise you that, after due deliberation and review of the evidence recorded during your hearing on March 30, 1931, the Board of Registration in Medicine of the State of Michigan, by unanimous vote of the members present recorded the following action:
That your certificate of registration, or license, being numbered 163, and issued to you by this Board under date of September 2, 1924, under Section 3, Subdivision 3, of Act 237, Public Acts of 1899 as amended, be revoked, and that said revocation become effective at noon of March 31, 1931.

Act 237, Function become effective at noon of that said revocation become effective at noon of the 1931.

By direction of the Board of Registration in Medicine of the State of Michigan.

(Signed) F. C. WARNSHUIS, Secretary."

By Dr. McLaughlin, seconded by Dr. Teifer:

RESOLVED, that the expenses of the Board be approach incurred while attending this Board meeting. proved, incurred while attending this Board meeting. Yeas, 8; Nays, 0. Motion carried.

Upon motion the meeting adjourned. NELSON McLaughlin, President. F. C. WARNSHUIS, Secretary.

MINUTES OF THE APRIL MEETING OF THE EXECUTIVE COMMITTEE

The April meeting of the Executive Committee was held in Grand Rapids on April 15, 1931, with the following members present:

Chairman—B. R. Corbus.

C. E. Boys. J. D. Bruce.

Henry Cook.

Geo. L. Le Fevre.

President-Ray C. Stone.

President-Elect—C. F. Moll. Secretary—F. C. Warnshuis.

The Secretary presented a report of the meeting of the section officers and the outline for the scientific program for our Annual Session. Upon motion of Bruce-Boys, this report and the outlined program was approved and the section officers instructed to execute it.

Upon motion of Le Fevre-Cook, the Secretary was authorized to purchase six new lanterns for our scientific sections.

Upon motion of Le Fevre-Cook, the Secretary was authorized to advertise for bids for our present lanterns and that they be sold in the order in which application was made.

4. Upon recommendation of President Stone and upon motion made Bruce-Le

Fevre, President Stone was authorized and instructed to arrange for personal interviews and the personal extending of an invitation to participate in the program of the first general session to such desirable speakers as he may feel disposed to invite for our first general meeting.

Upon motion of Boys-Bruce, the Secretary was authorized to purchase or have constructed for permanent use viewing

boxes for our scientific exhibits.

Discussion was entered into as to the possible influence and detraction that the American Legion meeting in Detroit, during the same week as our Annual Meeting, would have upon the attendance at Pontiac. After considerable discussion it was the motion of Boys-Cook, that our designated dates of September 22, 23 and 24 be not

changed.

Upon motion of Bruce-Cook, the action taken at the last Executive Committee meeting regarding Dr. Ignatz Mayer's application for membership was reconsidered and rescinded. After thorough discussion it was moved by Bruce-Cook that, responsive to the recommendations and investigations of the Wayne County Medical Society, Dr. Mayer's application for membership be accepted provided no specific objections were recorded or filed by the American Medical Association.

The Secretary presented a communication from the Legislative Committee that contained a request for a special committee to study the activities, policy and program of the County Health Units. After considerable discussion action was deferred and the subject referred to the special meet-

ing of the Council. The Secretary presented a communication from Dr. W. P. Bope, of Decatur, relative to the sending of tonsil cases to the University Hospital. After some discussion this question was referred to the spe-

cial meeting of the Council.

Chairman Corbus presented a communication from the Michigan Anti-Tuberculosis Society and also resolution passed by that body requesting the Michigan State Medical Society and the Post Graduate Department of the University of Michigan to assume direction and administration of the diagnostic tubercular clinics for doctors. After considerable discussion this question and this resolution were referred to the special meeting of the Council.

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11. Chairman Corbus presented several important pending problems that require the determination of a policy and stated that it was his opinion that the responsibility for assuming to formulate these policies and for the solving of these problems should not be assumed by the Executive Committee. He recommended that a special meeting of the entire Council be held on May 6, at which time representatives of the several foundations, state associations together with the State Commissioner of Health, who are all concerned and interested in these problems, should be invited to be present and discuss and impart their programs. Upon motion of Bruce-Cook, the calling of a special meeting of the Council for May 6, 1931, was approved and the Secretary was instructed to communicate with the representatives of these several organizations and ascertain whether or not they would be able to be present at this special meeting, and if there was any conflict as to date by reason of previous engagement, that the Secretary in conjunction with Dr. Bruce would determine the most convenient and agreeable time and place for holding this special meet-

The Secretary reported that he had engaged the services of a stenographer to take the proceedings that were held at the joint session of the State Legislature in honoring Doctors Novy, Gomberg and Kahn. Upon motion of Le Fevre-Cook, the Secretary was instructed to edit the stenographer's report and cause it to be published as a supplement to the Journal and that the supplement be sent to all mem-

bers of the legislature.

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13. The Secretary presented a communication from the Chairman of the Civic and Industrial Relations Committee requesting authority to organize in each county society local Civic and Industrial Relations Committees and to arrange for public meetings for the purpose of presenting talks upon scientific medicine and health problems. Upon motion of Bruce-Boys, the Executive Committee expressed sympathetic endorsement of such a proposed program. The Executive Committee feels, however, that such a program should be carefully considered and carefully outlined so as not to conflict or trespass upon the scope of work that is now being accomplished by the Joint Committee of Public Health Education and by the Legislative Committee of the state

and county societies. It was further recommended that the Civic and Industrial Relations committee be requested to formulate a detailed program and to communicate this program to the Council for the purpose of consideration and final action.

The Secretary announced the death of a former member of the Society, of the Council, Ex-President and Editor of our Medical History, Dr. Colonel B. Burr of Upon motion of Cook-Le Fevre the Chairman of the Council, Dr. Bruce and the Secretary, were appointed as a committee to draw up suitable resolutions and to spread them upon the Minutes of the Society and

to send a copy to Mrs. Burr.

The Secretary presented a communication from the Chairman of the Medico-Legal Committee, who requested instructions as to whether or not defense should be entered for a doctor who was being sued but whose services, for which suit was brought, were rendered during a four year period of suspension for non-payment of dues and who had within the week previous to the institution of his suit obtained reinstatement of his membership in the County Society. Upon motion of Le Fevre-Boys, the Secretary was directed to instruct the Chairman of the Medico-Legal Committee that with the information at hand and considered and the provisions of our By-Laws for medical legal defense that the State Society declines to assume any liability for the member's defense.

The Secretary presented the report of Councilor Ricker in the matter pertaining to the complaint of Dr. Fairbanks of Luther relative to the activities of the Couzens Foundation. The matter having been satisfactorily adjusted Councilor Ricker's report was accepted and filed.

Dr. Bruce reported that arrangements were being perfected for holding of Post Graduate Conferences and Clinics in Marquette, Port Huron, Jackson, Benton Harbor, Muskegon, Manistee and Genesee County. The announcements and programs for these clinics will appear in the Journal and will also be sent by mail to the members in these respective Councilor Districts.

The Executive Committee adjourned at 10:45 p. m. to meet in May at the special meeting of the Council.

F. C. WARNSHUIS, Secretary.

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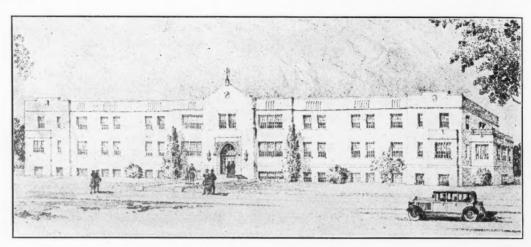
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MERCY HOSPITAL SCHOOL OF NURSING

Mercy Hospital School of Nursing was established in 1904 to provide instruction in the care of the sick and meet the need for The nurses have been using the fourth floor of the hospital for living quarters until such time as a home could be built for their residence. The natural growth of the city brought about an increase in the business of the hospital and the necessary increase



MERCY HOSPITAL, NURSES' HOME

nursing service in the hospital, home and community. The student must be a high school graduate and be eighteen years of The course of instruction covers a period of three years. A full time Instructress is employed. Since 1920 the School has been affiliated with the Children's Hospital of Michigan, where they receive special training in pediatrics. In 1926 it also affiliated with the Muskegon Junior College, which is conveniently situated on Central Campus, where the basic sciences are taught by expert teachers. Throughout the entire course lectures are given by members of the hospital Staff, who are especially qualified for the subjects presented by them. The students are under the immediate supervision of teaching supervisors and instructors, when on duty in the hospital, where the practical work is correlated with the instruction received in the class room. The School is non-sectarian. It is expected that the students attend the service of their respective churches. The graduates are eligible for registration by the Michigan Board of Registration of Nurses, and through their alumnæ become members of the District, State and American Nurses Association. The present class numbers 45. The School has graduated one hundred nurses, many of whom are employed in Public Health, Institutional and Industrial work. A class of eight will graduate May 26th.

in the number in the Training School. The increases made it necessary to room a considerable number of the student nurses in homes near the hospital. This was not satisfactory to the hospital nor for the best interests of the nurses. The situation was brought to the attention of several of the professional, industrial and business leaders of the community who became interested and made a survey of the need of the hos-The result was the organization of a committee to raise the large sum of four hundred thousand dollars, for the threefold purpose of, first, payment of indebtedness on hospital property; secondly, erection of Nurses' home; and third, construction of Power Plant and Laundry. The campaign was successful but under the plan serial payments were called for and the first payments were used to reduce the indebtedness. Then the building program was undertaken and it was decided that the Nurses' Home should be built first and after its completion the Power Plant and Laundry should be undertaken all on the basis of a pay-as-yougo policy to avoid incurring any new indebtedness. Ground was broken for the Nurses' Home September 24, 1930, and aided by the fine fall weather and the exceptional open winter rapid progress was made in construction. The contract was let at a time when building costs were lower and the hospital was able to get exceptional values as well as careful workmanship.

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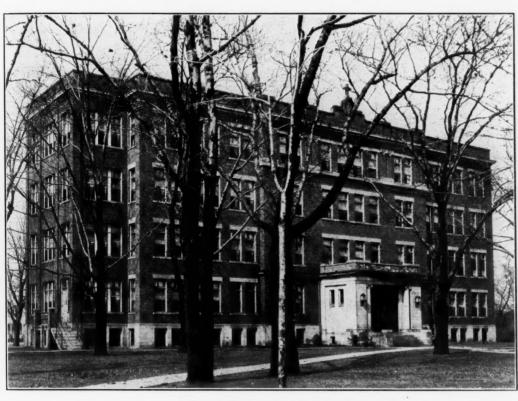
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The new home completely equipped for occupancy cost \$125,000.00. It was designed by VanLeyen, Schilling and Keough of Detoit, is two stories in height and accommodates eighty nurses. The walls of reinforced concrete are faced with pressed brick and are so designed that a third story

is a sun parlor, accessible from the first floor. The second story is devoted to sleeping quarters and lavatories. There are twenty-nine sleeping rooms and two wash rooms.

One of the features of the ground floor is a small auditorium, 39x40 feet, for which



MERCY HOSPITAL, MUSKEGON

can be added without extra expense in designing extra supports. The building is freproof throughout, the floors and walls all being of concrete and non-inflammable materials.

Having dimensions of 183 by 42 feet the rectangular structure is located on the northwest corner of the hospital property and faces the hospital. It is connected with the hospital by an underground passage-All non-essentials in architecture have been eliminated in the simple but attractive style of building. The outstanding teature is the front entrance, which is elevated and is reached by two symmetrical flights of steps. The floors throughout are terrazzo. Cheerfulness radiates from every corner of the home. On the first floor are a lobby, living room, library, reading room, office, two reception rooms, 21 sleeping rooms and lavatories, which are of sufficient size to accommodate the occupants of the first floor. At each end of the hallway the stage is 20x21 feet in dimensions. This has seating capacity for 200 persons and will be used for lectures and other meetings of appropriate character. A gymnasium 30x40 feet with a 14 foot ceiling will give the nurses opportunity to have physical exercise at all times of the year regardless of the weather conditions out of doors.

Also on the ground floor is an administration room, a dietetic laboratory, coat room, trunk storage room, sewing room and laundry. A kitchen, wash rooms and two sleeping rooms for employes.

The Nurses' home will be opened May 12, National Hospital Day. A reception will be held for the public in the afternoon and evening.

MERCY HOSPITAL OF MUSKEGON, MICHIGAN

Mercy Hospital of Muskegon, Michigan, is a Michigan Corporation organized under the laws of the State of Michigan. It was

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founded in 1903 when the L. G. Mason property comprising the entire block of land 350 feet on Jefferson Street and a depth of 390 feet on Grand and Southern Avenues, Fifth street being on the west, was purchased by the Sisters of Mercy for the purpose of conducting a hospital for the care of the sick and injured. The Sisters had little funds and much effort was required on their part.

In 1904 thirty rooms were added, increasing the capacity to forty beds. The service increased each year and in 1913 a campaign was launched, the receipts from which formed a nucleus for the new building. Additional funds obtained through subscriptions from firms and individuals and money raised from various functions sponsored by friends of the hospital made possible the erection of the new hospital.

The hospital designed to accommodate one hundred patients is picturesquely situated in the center of the block and includes the most modern conveniences known to hospital construction. The main entrance is on Central Campus. It was opened April 15, 1921. It consists of four stories and basement and is strictly fireproof throughout, consisting of reinforced frame, brick and tile walls and terrazzo floors.

The hospital is conducted by the Sisters of Mercy, each department being under the supervision of a Sister. The Medical Staff is open. Dr. Geo. L. LeFevre is Chief of Staff and each department is in charge of a competent physician, specialists in their various departments. It is rated as Class "A" hospital by the American College of Surgeons and also recommended by the American Medical Association for Interne service. There have been 33,383 patients cared for since 1903. Hundreds have been cared for free of charge and many have been able to pay but little for their care, as no one is denied admission regardless of race, creed or ability to pay for service.

LICENSING SPECIALISTS

Dr. George E. Follansbee, chairman of the Judicial Council of the American Medical Association, quite recently has spoken publicly before a meeting of welfare workers concerning the inadequacy of medical service rendered a large part of our population, and he deplored the passing of the old-fashioned family doctor and the increase in the number of poorly educated and inadequately trained specialists with their bid for large fees and their willingness to render poor and oftentimes unnecessary services. Doctor Follansbee says that the med-

ical profession must undergo reorganization with the idea of making it possible for all the people to receive good medical and surgical services at any and all times and at a cost that can be borne. He believes that one of the first steps to be taken is to adopt and put into effect some plan whereby no physician will be permitted to hold himself out as a specialist unless it can be shown that he has been educated and trained sufficiently to justify legal permission for such distinction. It further is stated that the public is becoming fully acquainted with the unsatisfactory conditions that exist today and that unless the medical profession itself corrects conditions then the state must attempt to solve the problem. It may not be amiss to call attention to the complaint made repeatedly in lay periodicals that at the present time there is no way by which the rank and file of the public can determine "who is a good doctor." It doesn't do to refer to membership in the local, the state or the national medical organization (American Medical Association) for many incompetent as well as dishonest physicians are members of all three organizations. It doesn't do to say that a physician having a large practice is a good physician, for quacks and impostors sometimes have large practices for a while. However, there should be some way of estimating a physician's ability by the amount and character of education and training he has had, and the manner in which he applies what he knows. But again referring to Doctor Follansbee's suggestions concerning reorganization of the medical profession when are we sain ization of the medical profession, when are we going to start? Are we going to continue our present apathetic attitude and awaken only when the state medicine bombshell strikes us full force? Public sentiment is ripe for a change in our present plan of furnishing medical and surgical services, and already lay reformers are agitating various visionary and impractical schemes for regulating and controlling medical and surgical service. The problem is one which the medical profession should solve, and it is time for us to begin a reorganization of activities before someone else does it for us. An error now will be very difficult to correct later .-Indiana State Journal.

COUNTY SOCIETIES

CHIPPEWA AND MACKINAC COUNTIES

Officers of the Chippewa and Mackinac Medical Society for the year 1931 are as follows: Dr. C. Willison, president; Dr. E. H. Webster, vice president; Dr. I. V. Yale, secretary-treasurer.

DICKENSON-IRON COUNTIES

New officers for the Dickenson-Iron Medical Societies for the coming year are: President, Wm. H. Alexander, Iron Mountain; vice president, Robert E. White, Caspian; secretary-treasurer, D. R. Smith, Iron Mountain.

GRATIOT-ISABELLA-CLARE COUNTY

The March meeting of the Gratiot-Isabella-Clare County Medical Society was held in the Wright House, Alma, March 19. Fourteen members and four visitors had dinner together, after which President Harrigan called the meeting to order. Minutes of the previous meeting were read and approved.

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Communications were read relative to legislative matters and every member was urged to write our State Senator, William F. Turner, requesting his opposition to the Chiropractor Bill. President Harrigan then introduced Dr. Ver-

University Hospital, who gave an illustrated lecture entitled, "Present Applications of Bone ture entitled, "Present Applications of Bone Grafting." This was listened to attentively by every one present.

On behalf of the Society, President Harrigan thanked Doctor Hart for his very instructive lec-

Meeting adjourned.

E. M. HIGHFIELD, M.D., Secretary.

MARQUETTE-ALGER COUNTIES

The annual meeting and election of officers was held December 16, 1930. Dr. Harold Markham, Marquette, was elected president; Dr. Daniel P. Hornbogen, Marquette, scretary-treasurer; Dr. Nels Robbins, Negaunee, vice president; Dr. Vivian Vandeventer, Ishpeming, delegate to the State Medical meeting, and Dr. Alfred W. Hornbogen, Marquette alternate quette, alternate.

MONROE COUNTY

Monroe County Medical Society reports good attendance at recent meetings and good pro-

grams, too.
Dr. H. T. Gray, formerly of Shiawassee County, is now practicing in Maybee. In February he was received as a member by transfer from Shiawassee County Society.
At the meeting February 19, 1931, Dr. Vernon L. Hart, of the Department of Orthopedics of the University Hospital, Ann Arbor, gave an address on "The Recognition, Classification, and Treatment of the Various Types of Arthritis." He illustrated his talk with lantern slides. By He illustrated his talk with lantern slides. By the time Dr. Hart was through, we had all de-cided that there really is much that can be done for the arthritic patient. His paper and his pic-

tures were highly interesting.

The March 19 meeting was a double-header.

Dr. L. F. Lashmet, of the University Hospital, gave a talk on "Nephritis." He explained the method recently evolved at University Hospital of treating chronic paragraphymatous nephritis of treating chronic parenchymatous nephritis with neutral diet and acid medication. This work is to be presented to the profession at the meeting of the American Medical Association in Philadelphia next June. We are glad to get in on

Dr. John Sundwall, of the Legislative Committee of the State Society, was the second feature. He explained to us the ideal scheme for the licensing of all professional classes by one general education board.

FLORENCE AMES, M.D., Secretary.

MUSKEGON COUNTY

The Muskegon County Medical Society held its annual meeting in December, with election of officers as follows: President, Dr. H. J. Pyle; vice president, Dr. H. F. Bartlett; secretary and treasurer, Dr. R. J. Douglas; delegate to State Society, Dr. F. W. Garber, Sr.; alternate, Dr. C. J. Bloom; medico-legal adviser, Dr. George L. LeFevre.

A contribution has been made by the Muskegon County Medical Society to the Pershing Memorial Hall Fund.

There have been two deaths in our Society since the beginning of the year-Dr. Jacob

Bursma of Muskegon and Dr. A. G. Burwell of Whitehall, Michigan.

The Muskegon County Medical Society has endorsed the action of the council, in regard to the handling of insurance blanks.

ROBERT J. DOUGLAS, Secretary.

OTTAWA COUNTY

On December 10, 1930, the following officers were elected for the Ottawa County Medical Society: President, Dr. William Tappan, Holland; vice president, Dr. E. H. Beernink, Grand Haven; secretary-treasurer, Dr. W. B. Bloemendal, Grand Haven; delegate, Dr. A. Stickley, Coopersville; alternate delegate, Dr. S. L. DeWitt, Grand Haven.

W. B. BLOEMENDAL, Secretary.

WAYNE COUNTY

The first annual joint meeting between the Detroit Bar Association and the Wayne County Medical Society will be held on Tuesday, May 5. An interesting program is being arranged by the two committees representing these professional groups.

Dr. Milton B. Cohen of Cleveland has been invited to appear on the Society's program of Tuesday, May 12. Dr. Cohen is recognized as one of America's leading allergists and his presentation should be of great interest to all practitioners in

this State.

Mr. H. S. Stevens of Rutherford, New Jersey, will address the Society on May 19th on the "Economics of the Profession."

Dr. Willis C. Campbell of Memphis, Tennessee, will address the Wayne County Medical Society on Tuesday, May 26. The subject will be "Ununited Fractures."

The Cafe of the Wayne County Medical Society served 2,336 luncheons during March, 1931. This was an increase of 274 over February. In addition, the Cafe served 163 dinners by special reservations.

the Cafe served 163 dinners by special reservations. All out-of-Detroit physicians are invited to avail themselves of the Cafe for luncheon purposes when they are visiting in Detroit.

The American Medical Golfing Association Tournam.nt will be held over the Aronomink course in Philadelphia June 8, 1931. Over thirty prizes will be offered at this Seventeenth Annual Tournament of the Association. Three hundred doctors from all over the United States are expected this year. Plan to attend and enjoy a great day.

Plan to attend and enjoy a great day.

The Civic and Industrial Relations Committee of the Michigan State Medical Society held a meeting in the Cafe of the Wayne County Medical Society on April 20. Representatives of insurance companies were present at this meeting to discuss the matter of physicians charging insurance companies for the execution of blanks and reports, in accordance with the State Resolution passed two years

During the twenty-six working days of March,

During the twenty-six working days of March, 1931, 5,139 pieces of mail were handled by the Executive Office of the Wayne County Medical Society. This was an average of 196 per day.

Lord Moynihan's broadcast from Leeds, England, on "The Future of Surgery" has been printed in The Bulletin of the Wayne County Medical Society. Copies of The Bulletin will be sent to any member of the State Society, upon request.

of the State Society, upon request.

The Detroit Physicians Business Bureau, under the management of Mr. John J. Wells, has signed a new contract with the Board of Trustees of the Wayne County Medical Society for the collection of members' accounts by the Bureau. The Bureau has been in operation for sixteen years. A contin-

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uation of satisfactory service to physicians and surgeons is guaranteed for the future in the signing of this contract.

Paint Up—Clean Up Week will be celebrated in Detroit May 4 to 9 inclusive. This campaign is being sponsored by the Detroit Board of Commerce with the cooperation of the Wayne County Medical Society and the Detroit Department of Health.

An analysis of Detroit's physicians and surgeons, following the study made in 1929, has been published by the Committee on the Costs of Medical A résumé of this report was published in The Bulletin of the Society, issue of April 21. Copies are available.

Dr. H. B. Van Hyning's license was revoked by the Michigan State Board of Registration in Medicine because of unprofessional conduct and for maintaining a professional connection with an unlicensed individual, Harry Hoxsey of the so-called Hoxsey cancer clinic, which recently moved to Detroit from Muscatine, Iowa.

The Public Education Committee of the Wayne County Medical Society will begin a new series of radio broadcasts over Station WEXL in May. One lecture per week will be given by members of the

Detroit won first place in the Inter-City Health Conservation Contest sponsored by the United States Chamber of Commerce. The award, made April 9, stated that Detroit was the most solicitous of all the cities of the country regarding the health of its citizens. Two hundred and fifty cities competed and Detroit's total of points stood at 997 out of a possible 1,000. The splendid report is the result of cooperative work between the Detroit Board of Health, the Public Health Committee of the Detroit Board of Commerce, and the Public Health Committee of the Wayne County Medical Society.

The Annual Election of the Society will be held Tuesday, May 19. The newly elected officers will be entertained at a banquet by members of the Noon Day Study Club on Wednesday, May 20.

WOMAN'S AUXILIARY, MICHIGAN STATE MEDICAL SOCIETY

MRS. L. J. HARRIS, President, Jackson, Mich. MRS. W. L. FINTON, Secretary, Jackson, Mich.

BAY COUNTY

Bay County Auxiliary met March 15 at the Plum Tea Room, Bay City, for dinner. After the regular business meeting the ladies sewed on garments for the Civic League. It was voted to furnish one of the rooms in the memorial hospital soon to be erected in Bay City. The next meeting will be held at the home of Mrs. L. F. Foster, May 13.

OAKLAND COUNTY

The Women's Auxiliary of the Oakland County Medical Society met March 27 at the Royal Oak Women's Club in Royal Oak. About forty members were present to enjoy the excellent luncheon, and program.

Mrs. Palmer Sutton of Royal Oak rendered two violin numbers which added much to the pleasure of the occasion. Following the luncheon a brief business meeting was held, after which Dr. Ly Werner of the Oakland County Tuberculosis Sanatorium gave a most interesting and instructive talk on tuberculosis in children and the treatment received by them in the Oakland County institution.

The next meeting will be a Benefit Bridge and Tea and will be held at the home of the president, Mrs. Frank A. Mercer, April 24.

MEDICAL ECONOMICS

THE PRIVATE GROUP CLINIC

A study of private group clinics in the United States* made for the Committee on the Costs of Medical Care by C. Rufus Rorem has been issued as Publication No. 8 of the Committee.

There are approximately 150 such clinics, with

a total medical personnel of about 2,000. resent a comparatively recent development in medical practice, most of those now in existence having been organized since the World War. Almost none is to be found in the eastern States; the majority are in the middle west.

The average capital investment in plant and equipment, excluding hospital facilities, was \$10,000 per practitioner in seven clinics which supplied informa-tion on this point. The average capital investment in medical equipment and apparatus was \$3,600 for 217 practitioners in nineteen clinics supplying infor-

There are two general classes of clinic practition-Those who share in the ownership of the clinic assets and participate in its profits; those employed solely on a salaried basis. The former group is composed of relatively older men. Data from 34 clinics revealed an average of 20 years since graduation from medical school for the "owners" and 8 years since graduation for the "salaried" physicians.

Of 415 clinic physicians listed in the 1929 American Medical Directory, 337 were members of the American Medical Association. Clinic physicians were found to belong to specialized associations to a greater extent than independent practitioners in the same communities, a result, in part, of the fact that a larger percentage of clinic members are specialists.

The distribution of the various specialties among 50 clinics was as follows, indicating those groups in which each specialty was represented by at least one practitioner: Internal medicine, 50; surgery, 50; eye, ear, nose and throat, 46; obstetrics, 37; urology, 35; pediatrics, 30; X-ray, 27; pathology, 26; den-

tistry, 17; gynecology, 17.

Perhaps the most striking development in group clinic practice is the "business office," a separate department under a lay business manager who is an employee and whose duties and responsibilities are determined by the clinic physicians. Financial dealings with patients usually rest in the hands of these business managers, physicians wishing, it appears, to have as little of these as possible although their wishes with regard to the establishment of fees prevail.

According to statements by forty-two clinic managers, clinic fees appear to be regarded by the genagers, came tees appear to be regarded by the general public as neither higher nor lower than those of local doctors in private practice. Twenty-one managers say their fees are "about the same," eight say they are "higher" and thirteen that they are "lower" than those of independent practitioners. The practice of the typical private group clinic is essentially local. The majority of patients, managers say, are persons of moderate means with a

agers say, are persons of moderate means, with a considerable number who might be classed as well-

to-do, and a few others who are very poor.

Approximately one-fourth of 60,000 patients served in fourteen clinics in 1929 were hospitalized during diagnosis or therapy. Approximately 10 per cent of 41,000 patients in ten clinics were treated

^{*}Private Group Clinics: The Administrative and Economic Aspects of Group Medical Practice as Represented in the Policies and Procedures of 55 Private Associations of Medical Practitioners, by C. Rufus Rorem, Ph.D., C.P.A., Committee on the Costs of Medical Care, Washington, D. C.

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by major surgery. In twenty-one clinics, 528,000 visits by patients were received by 215 members, an average of 2,459 per practitioner.

Data were received from twenty-seven clinics regarding gross and net income per practitioner. Gross incomes ranged from \$10,708 to \$25,606, and net incomes from \$5,960 to \$17,449. The average gross income for each of the 314 practitioners was \$14,008 and the average net income. \$9,747.

\$14,908, and the average net income, \$9,747.

The conclusions drawn by Mr. Rorem from his study embrace the following:

"I. Group clinics are in direct economic competi-

tion for the medical service which constitutes the major portion of the practice of independent practitioners.

"II. The economic success of group practice depends upon the degree of utilization of the capital investment and of the time of the individual pracinvestment and of the time of the individual practitioners. The medical service of a clinic cannot usually be adjusted to the convenience of a patient as easily as can the services of an independent practitioner. Where, however, a patient requires the services of several specialists he can probably obtain treatment with less inconvenience and expense at the

reament with less inconvenience and expense at the office of a clinic than from separate practitioners.

"III. The members of private group clinics generally make an effort to maintain a personal relationship between physician and patient.

"IV. The volume of medical service carried on by a private group clinic makes possible the establishment of a realist of the stablishment of the lishment of a specified maximum fee for difficult individual cases and for complete annual service to groups of patients.

"V. Clinics have in general provided net incomes and working conditions for physicians which make possible the continued development of group practice. The removal of financial and administrative responsibilities from the individual clinic practitioner has made him more completely available for professional service, and has, in some clinics, in-creased his opportunities for scientific research and development.

"VI. The employment of business managers has usually resulted in increased administrative economy and efficiency. The establishment both of fees and of collection policies is based upon financial data obtained through conventional business methods. lnasmuch as the financial status of a clinic patient is usually investigated, group clinics probably per-form less 'free service' than would an equal number of independent practitioners doing the same volume of work.

"VII. Private group clinics, through their available equipment and their coördination of medical specialists, are in a position to fulfill the basic requirements of good medical care with economies from which either or both the clinic members and the public may benefit."

RÔLE OF STATE HOSPITAL IN MENTAL HYGIENE

J. Allen Jackson, Danville, Pa., cites facts that warrant the following conclusions: 1. The mental hospital can be made one of the keystones of the mental hygiene movement. 2. It has and always with play a definite rôle in research and treatment. 3. Its clinics and educational activities are two of the greatest forces in carrying the doctrine of prevention. 4. It lends its broad arms to medical education. 5. It is one of the greatest mediums for public enlightenment. 6. All of which may be done with satisfaction, peace and harmony in its many related fields. 7. The coöperation of the physicians in the district of the physicians in the physicia related fields. 7. The coöperation of the physicians in the district will simplify and make possible the approach to the problems.—Journal A. M. A.

THE DOCTOR'S LIBRARY

RECENT ADVANCES IN BIOCHEMISTRY. John Pryde, B.Sc. (St. Andrews), M.Sc. (Wales), Lecturer in Physiological Chemistry, Welsh National School of Medicine. Third edition, with 42 illustrations, 393 pp. P. Blakiston's Son & Co., Inc., 1931. \$3.00.

Extensive additions have been made in the third edition of this work and in order to keep the work near the size of the former editions the author has omitted chapters on colloids and chemotherapy. The subjects treated at present are: Protein structure and proteolytic enzymes, amino acids and urea formation, sulphur compounds and protein metabolism, tyrosine, nucleoproteins, carbohydrates, fats, phosphorous compounds, bile acids and sterols, vitamines, hemoglobin and natural pigments and the chemical basis of specific immunological reactions. The index makes details easily available.

RECENT ADVANCES IN HEMATOLOGY. A. Piney, M.D., Ch.B. (Birmingham), M.R.C.P. (London), Hematologist, Cancer Hospital, London; Consulting Pathologist, Chelmsford Hospital. Third edition with 4 colored plates and 18 text figures, 348 pages. Philadelphia: P. Blakiston's Son & Co., Inc., 1931.

The present edition of "Recent Advances in Hematology the Hematology

atology, the third since 1927, differs from the previous edition in the presence of chapters on anemias with low color index and on sickle cell anemia. For-mer chapters have been considerably revised. The work now includes chapters on the reticulo-endothelial system, development of blood cells, leukemia, anemias, infective and non-infective leukemoid blood pictures, polycythemia and splenomegaly. The work is indexed, has a glossary and gives the rudiments of hematological technic.

SELECTIONS FROM THE PAPERS AND SPEECHES OF JOHN CHALMERS DaCOSTA, M.D., LL.D. Samuel D. Gross, Professor of Surgery, Jefferson Medical College, Philadelphia, Pa. 440 pages. Philadelphia and London: W. B. Saunders Company, 1931. Cloth,

This is a book for the doctor's leisure reading. It is concerned with an interesting variety of subjects by a writer who possesses a unique faculty of writby a writer who possesses a unique faculty of writ-ing entertainingly on whatever subject he chooses. There are twenty-one topics. As examples we may mention: The Trials and Triumphs of a Surgeon; Dickens' Doctors; The Surgeon, the Patient and Clinical Diagnosis; Behind Office Doors; Certain Tendencies in Medicine; The Personal Side of Pepys; Baron Lorrey; A Sketch. Who wouldn't be interested in an evening with such reading matbe interested in an evening with such reading matter? There are also appreciations of such medical worthies as Samuel D. Gross, W. W. Keen and Crawford Long.

INTRODUCTION TO MEDICAL BIOMETRY AND STATISTICS. Raymond Pearl, Professor of Biology in the School of Hygiene and Public Health, and in the Medical School, The Johns Hopkins University. Second edition, revised and enlarged. 459 pp. Philadelphia and London: W. B. Saunders Company, 1930.

This edition of Professor Pearl's "Medical Biometry and Statistics" has been subjected to a general revision aimed better to adapt the work to the needs

revision aimed better to adapt the work to the needs of students. Nearly half the chapters deal with the practical problems of the collection and treatment of data on disease prevalence, death and birth. remaining chapters are concerned with the theory and application of the mathematical devices used and application of the mathematical devices used in the statistical and graphic representation of data. The work is written with the idea of presenting mathematical concepts to men of medical training, that is, the work is as practical and as free from abstruse mathematical verbiage as such a work can be.

SURGICAL NURSING. Hugh Cabot, M.D., F.A.C.S., Senior Consultant, Mayo Clinic, Rochester, Minn., and Mary D. Giles, B.S., R.N., Associate Professor of Nursing Education, Vanderbilt University, Nashville, Tenn. 428 pages with 123 illustrations. Philadelphia and London: W. B. Saunders Company, 1931. Cloth, \$3.00.

A miniature book on major surgery. It is a very interesting little work and the statements.

A miniature book on major surgery. It is a very interesting little work and doubtless any nurse would be benefited by an intelligent reading. However, as a means of fitting the nurse for a great deal of the work now being done by the physician we doubt its adequacy or desirability. In the preface we are told that, "it is beyond a doubt that the properly trained nurse is today doing many things which, in the not distant past, were clearly comprehended under the term 'practice of medicine'." And also, "one can confidently predict that in the reasonably near future the nurse will have taken over a considerable part of the field which is even today regarded as the practice of medicine." With this conviction the authors have presented the underlying principles of surgery which form largely the contents of the book. The desirability of the trained nurse entering upon any part of the practice of medicine is wholly absurd.

ROENTGEN INTERPRETATION, A MANUAL FOR STUDENTS AND PRACTITIONERS. George W. Holmes, M.D., Roentgenologist to the Massachusetts General Hospital and Assistant Professor of Roentgenology, Harvard Medical School; and Howard E. Ruggles, M.D., Roentgenologist to the University of California Hospital and Clinical Professor of Roentgenology, University of California Medical School. Fourth edition, thoroughly revised. Illustrated with 237 engravings. Philadelphia: Lea and Febiger, 1931. Cloth, \$5.00 net. 1931.

This edition is one of the best known textbooks on roentgen interpretation. It has been thoroughly revised and is now up-to-date in every respect. All the essential points of roentgen diagnosis are covered briefly but in a comprehensive manner. are many illustrations which have been accurately and distinctly reproduced from films depicting the various pathological conditions. The sub-title of the book indicates that it is intended for students and practitioners, but throughout the work the authors emphasize the necessity of thorough training, careful work and experience for success in roentgenology. In this day of high pressure salesmanship, X-ray apparatus has come into the possession of practitioners with little or no training in roentgen interpretation. A short course in technic is given by the manufacturer, and the physician is left to work out the diagnosis by the trial and error method. This book is indispensable to such a person. Since the X-ray has become such a universal diagnostic aid in medicine it seems that all physicians should have a fundamental knowledge of roentgen-This edition is an ideal source of such ology. knowledge.

CANCER, ITS ORIGIN, ITS DEVELOPMENT AND ITS SELF-PERPETUATION. The Therapy of Operable and Inoperable Cancer in the Light of a Systemic Conception of Malignancy. A research by Willy Meyer, M.D., Consulting Surgeon to the Lenox Hill and Postgraduate Hospitals, New York Infirmary for Women and Children, etc.; Emeritus Professor Surgery, N. Y. Postgraduate Medical School, New York: Paul B. Hoeber, Publisher.

The author makes a statement that should be driven home to every physician and to every layman: "The cancer problem is of such breadth that, in all the natural sciences, there does not seem to be any subject whatsoever that in some way or other does not bear on it. The limits of the ramifications of the cancer problem seem to coincide with the limits of science itself." Any one at all versed

in the literature of and experienced in the diagnosis and treatment of cancer must at once appreciate the truth of this statement. Whether or not we agree with the premises the author has laid down and the conclusions he has reached, we must give him credit for having made a valuable, correlated study of the literature on cancer and the allied sciences that seem to have a direct or indirect bearing on the subject.

He acknowledges that at one time he clung to the parasitic or germ theory of cancer. But ten years ago, when he asked Aschoff whether or not he thought a specific cancer agent would ultimately be discovered, Aschoff replied that if he should reach Methuselah's age he would not have lived long enough to see that happen. No doubt, that is the dictum today.

To demonstrate Maud Slye's heredity theory of the origin and the cure of cancer in the human being (her classical work on mice is now quite generally accepted) would probably take several hundred years of observation, unless, as the author suggests, the hereditary factor of susceptibility could be determined by biochemical examination of the blood serum. That, of course, is a possibility. The causative factor the author believes to be chronic irri-The cautation which is both systemic and local. Systemic chronic irritation, he endeavors to show, may be hereditary or acquired through some dysfunction of the vegetative nervous system. In any event, it follows cell necrosis, or necrobiosis, which forms a "focus" in which cancer starts and from which it spreads. The decomposition results in the forma-tion of "necro-hormones," or "necrones," as he prefers to call them, which stimulate cells to multiply, differentiating them, and causing them to lead an independent, vagrant existence, which, however, is short lived. The primum movens, however, is found not in the cell, but in the media about it, which injures its architecture and physiological function.

Cancer cells cannot develop in normal media which cause lysis. He believes the pH is higher in the sera of cancer patients due to a higher ratio of potassium calcium in favor of potassium; that the functions of the vegetative nervous system are controlled by the calcium-ion content of the serum; that when the calcium is diminished there is a reaction on sympathetic nervous system so that a vicious circle of chronic irritation is brought about; that the alkalosis from the deficiency of the sympathetic and para-sympathetic results in a hydropic condition of the cells, because of which the cells subjected to trauma do not heal, but undergo necrobiosis which may result in acquired susceptibility or aggravate an inherited susceptibility; that the "necrones," developing in the precancerous "focus" in a condition of alkalosis, perpetuate, in a vicious circle, the growth and metastasis of cancer; that cancer cells cannot grow in a condition of acidosis.

The reviewer is of the opinion that, while he has enjoyed reading this book (which, by the way, contains a tremendous amount of repetition), he feels that the author's conclusions are hardly warranted, yet the opinions and findings of so many experienced men woven into a connected story as he presents it furnish much food for thought. The wide field of unrelated literature and able argument (not, however, always based upon fact) are worthy of the consideration of the special student of cancer, but the general practitioner of medicine with little experience, and a limited study of the subject, after reading this book should make much further study before accepting it as gospel.

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